

Australian

JUNE, 1982. ISSUE 114. Vol. 10 No. 9

\$1.80*

MODEL RAILWAY

Magazine



KITBASHING A VicRail 'C' class Diesel.

NSWGR 'B' Class Open Wagon

MODIFYING THE LIMA 'ELX'

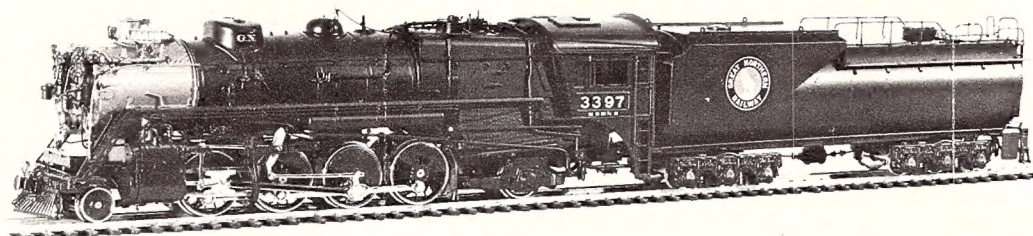
BUILD 'N' SCALE PASSENGER CARS

Registered by Australia Post Publication No. NBH0729

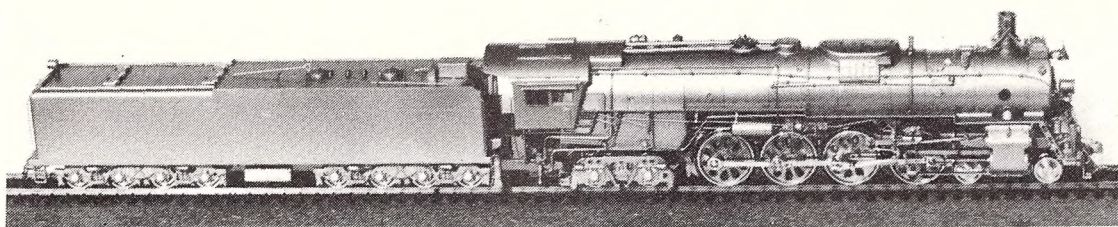
*Recommended retail price only.

NEW MOTIVE POWER IN HO SCALE — NOW AVAILABLE FROM STOCK...

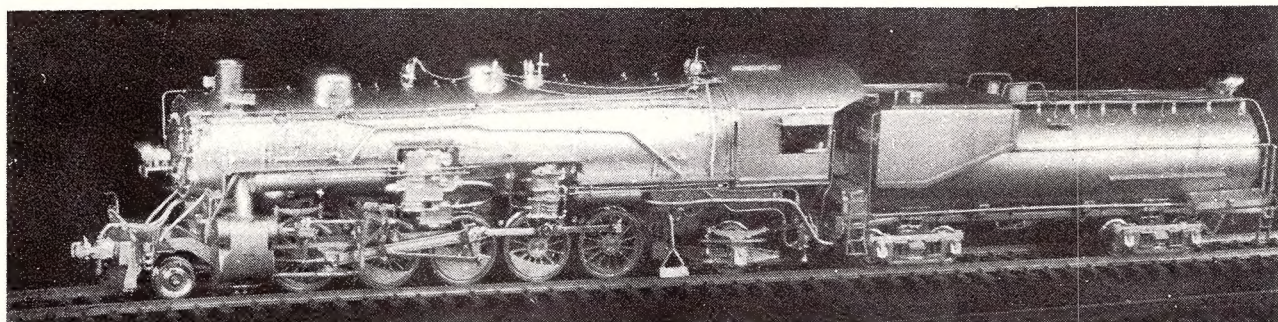
Tenshodo
"THE MARK OF QUALITY"



Tenshodo's limited production locomotives have always held top honours in the field of HO scale commercial motive power. Their quality of manufacture is without equal and well reflecting Tenshodo's peerless standards is this new run of Great Northern '0-8' Series 2-8-2. Equipped with Canon coreless motor, special direct drive gear box and painted with graphite smoke box. PRICE: \$951.00.



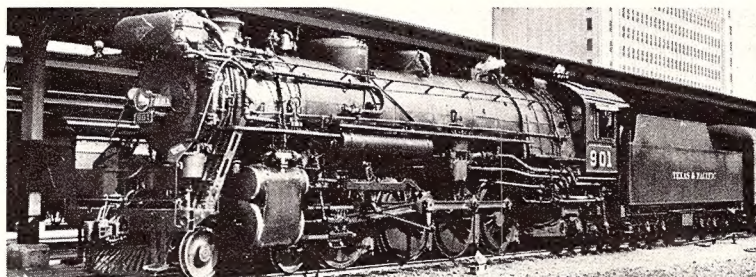
From United comes the magnificent Santa Fe 4-8-4, with long distance 16-wheel Tender and fully extended smoke stack. Other features include coined brass driver centres, backhead, cab seats and cab to tender deck plate. PRICE: \$794.00.



Southern Pacific 2-10-2 'F1' Series Loco. & Tender. Built in Korea to the order of Sunset Models. Finely detailed and a keenly priced model for fans of the S.P. PRICE: \$339.00.

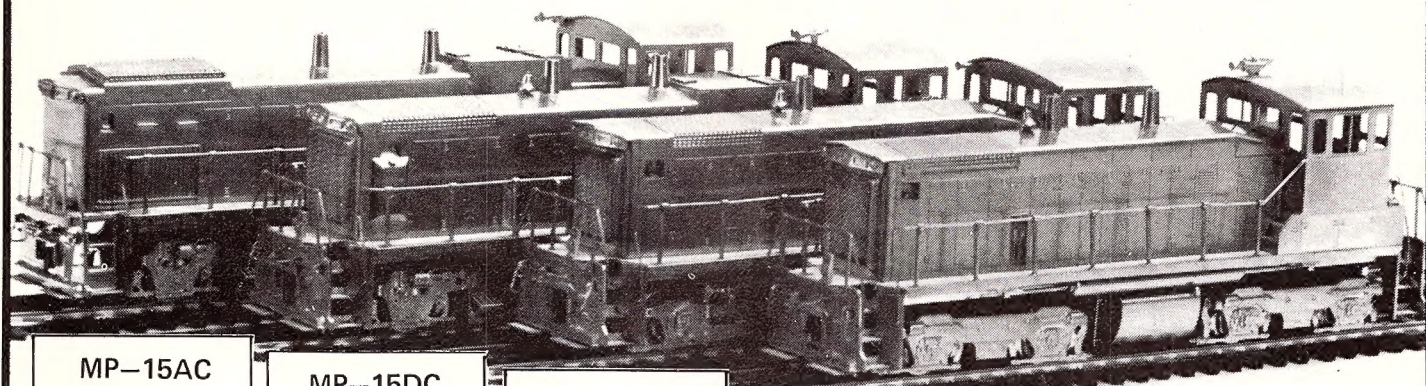
Prototype photo — H. K. Volrath

From Hallmark Models comes the Texas & Pacific 4-8-2 'M-9' Series Loco. & Tender. Built by Alco in 1925 with the massive Elesco feedwater heater, these Locomotives handled many named trains, including the "Sunshine Special" and "The Texan". Model manufactured in Korea. PRICE: \$351.00.



SOLE AGENT & IMPORTER
THE MODEL DOCKYARD PTY. LTD.
216-218 SWANSTON STREET, MELBOURNE. 3000. PHONES: 663 3505 & 663 4792

NEW MOTIVE POWER IN HO SCALE — NOW AVAILABLE FROM STOCK . . .

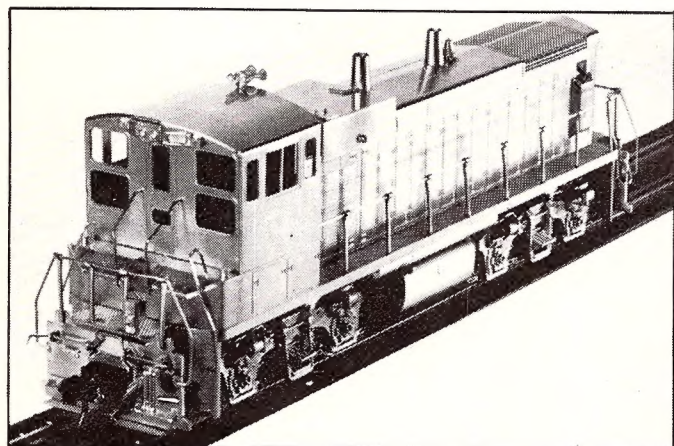


MP-15AC
D-164

MP-15DC
D-163

SW-1000
D-157

SW-1500
D-151



EMD MP-15AC
EMD MP-15DC
EMD SW-1000
EMD SW-1500
PRICE: \$261.00 EA.

The EMD MP-15, both AC and DC versions, proved to be very popular with prototype railroads and likewise, with modellers. The EMD SW-1500 (first time offered) is used in industrial service, as well as with the D. & R.G.W. and Burlington Northern. Whilst the EMD SW-1500's are the mainstay of many major roads, throughout the U.S.A. All Locomotives of Japanese manufacture, made to the order of Alco Models, Powered by 'can' motors, with drive shafts located above the floor for a more realistic appearance.

Other News from the DOCKYARD . . .

In addition to the new models illustrated herewith, stocks of Overland Models' McKen Motor & Trailer arrived in March @ \$299.00 per Set. Also the G.E. 'C30-7' Diesel Locomotive @ \$248.00 For loggers working in HO, Oriental's Woodward Lumber No. 3 2-6-2 Saddle Tank Locomotive is also in the list of new arrivals @ \$239.00 By the time these notes appear in print, Tenshodo are scheduled to follow delivery of the G.N. '0-8' 2-8-2, noted above, with a new run of their now famous Union Pacific 4-8-8-4 "Big Boy". This Locomotive will include many new refinements, including perforated running boards and brass castings by PIA Due in May are Alco Models' FM Erie Built A & B Diesel Sets in both U.P. and P.R.R. versions. Also Hallmark Models' Santa Fe 1A-1B Diesel Sets which will come with painted finish For traction fans, May/June will see the arrival of the C.A. & E. 450 Series Interurban Car Further stocks of our popular German 12V. Baby Drill are now available @ \$48.80. In addition to the matching Drill Stand @ \$47.50 NMRA HO Standard Track Gauges are again in stock @ \$3.60 Due to the constant disruptions and strike action in the Port of Melbourne, many of our accessory lines have run out of stock before replenishments have finally been received. However, recent arrivals include: 12 inch "General" Model Railroad Reference Rule, \$5.25; No.1 Hobby Black, \$6.95; No.2 Hobby Black, \$6.95; 75mm Engineers' Precision Square, \$12.80; HO Wheel Stops, \$1.50 per 2 pr.; HO Track Bumper Kit, \$2.35; NWSL Chopper, \$19.50; NWSL Driver Quarterer, \$37.95; 0-20V. Meter, \$21.50; 0-5 Amp Meter, \$21.50; Tenshodo MH-9 Motor, \$15.00; Tenshodo Point Motor, \$9.55; 36:1 Worm Gear Set, 2.25 and 13:1 Worm Gear Set, \$2.15 We are still in a position to accept reservations on the

next run of the mighty V.R. "R" Class Hudson Locomotive. As it is over 14 years since the time of the original production run, don't miss out on this opportunity to add the "R" Class Locomotive to your roster of steam power

Good stocks of Milled Brass Shapes (fine angles, tees, columns etc.) are now available. For covering Price List send large, stamped SAE with your request for same All Sagami Motors stocked by 'Dockyard' have double extended shafts. Thus giving the modeller the widest possible choice of mounting, even if but a single extension drive is required. In which case the unwanted shaft extension may be cut off. Motors in stock as these notes are prepared include: 9-12203, \$24.65; 9-14201, \$22.50; 9-16303, \$22.40; 9-20323, \$22.40; 9-28241, \$21.40; 9-28351, \$23.25; 9-18331, \$30.25 and 9-28401, \$22.40. Due about April are the following Sagami Motors: 9-14253, 9-16203, 9-20273, 9-22241, 9-22311, 9-28301 and 9-18361 For full details of our large range of milled basswood, structural wood shapes and stripwood, send 65c. remittance to cover cost of Detail Sheets, together with 5-page Price List More PFM 15th Edition Catalogue are now available @ \$3.75 per copy Following production of the fine Santa Fe 4-8-4 by 'United', coming next from this factory is a short run of the Santa Fe 'Modern Version' 2-10-4. Stocks of which should be available by the time this issue goes to press For traction fans working in HO and desiring to build single truck cars, we are pleased to announce the arrival of more Brill 21E Motor Truck @ \$35.50 each. Also, both 76E and 77E Brill Double Truck Sets. Each Set comprising one Motor & one Non-motor Truck @ \$38.50 per Set.

SOLE AGENT & IMPORTER
THE MODEL DOCKYARD PTY. LTD.

216-218 SWANSTON STREET, MELBOURNE. 3000. PHONES: 663 3505 & 663 4792

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Plastruct, Heljan, Pola, Kibri, Builder-Plus (Cardboard Kits) Wiking Vehicles, Herpa Kits, Preiser People, M & J Decals, Kadee, Heki, A.M.R.I. Accessories, Arwe, L.A.R. Drills, Oryx Soldering Irons, Scope Irons, Humbrol Craft Tools, Modeltronic Micro Sound System, Merit People, Faller, Airfix, Revell,

Publications: Kalmbach Books, Carstens Books, Various Monthly.

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Hamant & Morgan Duette, Clipper, Flyer, Powermaster, Control unit, Rectifier unit, Commander Module, Resistance Controller S.M. 3 Point Motors etc., Mainline Transistor Controller, Tempest Autopulse Inertia Throttle, Eda Throttle Power Pack, Toy Traders, Hornby, Tyco etc.

JUST ARRIVED: Heljan Turntable Motorizing Unit.

BANKCARD ACCEPTED

TOYMAN IMPORTS HOBBY CENTRE

A DIVISION OF TOYMAN IMPORTS PTY. LTD.

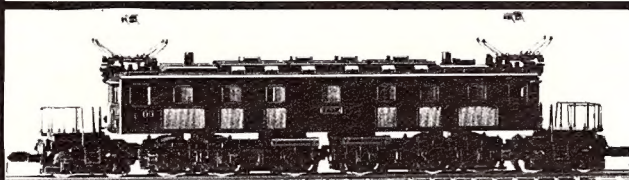
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'N' \$35.95

KATO, JAPAN'S LEADING MAKER OF 'N' GAUGE TRAINS, OFFERS YOU A STANDARD OF DETAIL, RUNNING QUALITIES AND RELIABILITY USUALLY FOUND IN PRODUCTS COSTING MUCH MORE. Catalogue — \$4.95 Posted.



Tenshodo

"SPUD"

NOW IN 5 SIZES!

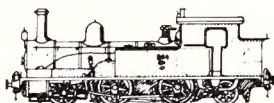
TENSHODO 'KIDO' MOTOR
— Double Shaft

MK II L19.0 x W9.5 x H 13.0 mm \$13.95
MK III L16.0 x W9.5 x H 13.0 mm \$13.95

24.5mm x 10.5mm	\$20.95
26.5mm x 10.5mm	\$20.95
31.5mm x 10.5mm	\$20.95
(Disc.) 31.5mm x 11.5mm	\$21.95
(Spoked) 31.5mm x 11.5mm	\$21.95

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ATTENTION ALL

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AND
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MODELLERS

WE NOW HAVE STOCKS OF

BEMO 12 mm GAUGE TRACKWORK
WHICH FEATURES
NICKEL SILVER WEATHERED RAIL

Flexi — Track (per ½ metre length)	\$2.35
Flexi — Track in Kit Form	
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Complete 'TT' price lists available,
SAE Appreciated

Send 40c stamp for sample section of track.



Smoke Generators

NEW Electronic Generator gives greater realism—commences smoking at **SLOW** speed and continues with steady smoke flow regardless of current drawn. If operating Marklin 3 rail or Multi-Train Control e.g. Salota or Zero 1 Locomotives will smoke before moving off **GREAT**
SPECIAL UNITS:— No.50/51 for normal stock 50/52 Slim Stock
 Just \$23.00 each post paid.

SALOTA

The **MULTI — TRAIN** Control System with a

.....DIFFERENCE

- * Simultaneous Independent Speed & Direction control of up to 5 trains on the one track.
- * Two (2) Types Command Desk (5 colour coded control knobs).
- No. 3702 — rated to 2.5 amps.
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- Desk to 10 amps. by special order.
- * Four (4) types of Receiver.
- No. 5001 — rated to 500m amp.
- No. 5002 — rated to 1 amp.
- No. 5503 — rated to 2 amp.
- No. 5004 — for Marklin 3 rail.

Thus SALOTA is suitable for all gauges HO, O, No. 1 (Excellent for LGB) some N Loco & Trams.

Simple to install (white wires to current, Pick-up points and coloured wires to brushes) Simple to operate. Guaranteed 12 months. Complete package to run 5 Locomotives - **NOW ONLY** \$284.00 post paid.

CATALOGUES and price lists post paid:—	
Brawa - HO & N operating Access.	\$2.75
Fleischmann - NEW 1981/82 HO & N	3.00
Hag - HO of Swiss prototype	.80
Marklin - 1981/2 HO, Z & No.1	3.00
Metropolitan - European HO Brass	21.00
Peco - 1981 HO & N combined	3.75
Rivarossi - HO, N & O 79/80 — N.S.W.	8.90
— Interstate	10.20
Seuthe - Smoke Generators etc.	.30
Locomotion Controllers	.24
Vollmer Kits - 1980/81 HO, N & Z	3.30
Faller - 1981 Z Gauge Brochure	.30
Salota - Multi-Train Control	.30

- MAGAZINES** - Annual Subscriptions taken for:
- a) Fleischmann Kurier (German Text)
 - b) Marklin Magazine (German Text)
 - Each \$13.00 per year — 4 editions.
 - c) Continental Modeller (English Text)
 - Bi-Monthly — \$15.00 per year.
 - d) Miniaturbahen — one of Germany's largest selling Monthly Model Railway Magazines (German Text) — 13 editions (2 on Nurnberg Toy Fair) — Per Year: \$55.00
 - e) Eisenbahn Magazine — another of Germany's popular Railway Magazines — \$57.00 per year.

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WE HAVE PLEASURE TO ANNOUNCE A NEW REVOLUTIONARY **HO TRACK SYSTEM** — CULMINATION OF THREE YEARS DEVELOPMENT AND A\$1.6 MILLION.—THAT WILL BE WITHIN YOUR BUDGET. WATCH THIS COLUMN NEXT ISSUE FOR FULL DETAILS **DON'T BUY ANOTHER PIECE OF TRACK UNTIL YOU HAVE SEEN IT.....**

MARKLIN

MAKE TRACKS TO BILL for MARKLIN

MARKLIN NEWS CORNER:—

1. **KOLL'S PRICE KATALOG 1982** edition bigger & better than ever ...with 472 pages and 700 photographs. Gives German Auction prices & details of every HO item made since 1935. German text with brief translation. This Katalog is a must for the Marklin Collector & modeller.
- STILL ONLY \$22.00 postpaid.
2. Electronic Controller for 3 Rail AC by Locomotion — see advertisement this page.
3. Contact us for Z gauge (Mini-Club) items from Marklin, Brawa & Faller.
4. We stock full range M & K track and overhead Catenary.
5. New Seuthe **ELECTRONIC SMOKE GENERATOR** for Marklin Locomotives. See Advertisement this page.

LOCOMOTION

ELECTRONIC TRAIN CONTROL

Bill Webb's exclusive **ELECTRONIC** controllers by Locomotion for

HO and N gauge \$72.00

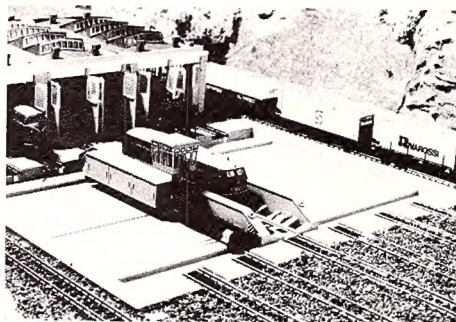
Marklin 3 Rail AC \$95.00

FEATURES: 8 Position variable brake, Shunt or Inertia option, Solid State construction, Overload protected and made from highest quality components. Guaranteed for 3 years. Write for yours to-day



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	N.S.W.	VIC. & S.A.	NT
Orders up to \$10. add	\$1.00	\$1.20	\$1.20
Orders \$10. to \$60. add	\$2.00	\$3.60	\$4.40
Orders over \$60.00	POST	FREE	FREE
Airmail, Registered, C.O.D. etc.add extra cost.			
ALL EXCESS POSTAGE REFUNDED.			
Increase due to 20% PLUS rise by Australia Post on March 22, 1982.			

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We stock fully operational:—

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T C RAIL MODELS

The R series cars are now in
production and will for now be
supplied only to existing reserv-
ations, prior to general release,
which should occur in 6 months.

The 'FG' kit is still available at
\$22.50 plus 75¢ per kit P & P
(Maximum \$2.25); the kit includes
epoxy bogies, but without wheels,
bearings or couplers.

I intend to re-release the following
Workshop 5 kits within the next six
months; if you are interested, all that is
required is an SSAE with the relevant car
code in the top left hand corner. You will be
advised when the kit is in production. The
vehicles involved are:—

MFA, MBA, MFA 2706, MFH, MH, TAM,
MCE, MHO, VHO.

In 1983, further Workshop 5 Model re-
runs will appear, and will include:—
CR, MFE, ACS, CHG, KP, SBX, SFX.

*Should the demand for any of the above
coaches prove sufficiently strong, then
they will be rerun earlier than presently
planned.*

T. N. SERVICES Pty Ltd

PO Box 90
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— Tim Arnot (Manager)

NB All enquiries must be accompanied by
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NORTH SHORE RAILWAY MODELLERS ASSOCIATION

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Adjacent to: FOREST WAY, "ARNDALE", SHOPPING
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SATURDAY, August 7, 1982
SUNDAY, August 8, 1982

9 am-6 pm
10 am-5 pm

ADULTS \$1.00

CHILDREN 50¢

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Commercial/Trade Stands. Model Cars.
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Bring 'N' Buy Stand — items welcome for sale.
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McBEES HOBBY CENTRE PTY LTD - IMPORT TO ORDER SERVICE FROM WALTHERS

A customer in our shop recently made the comment "when I think of McBees I don't see just the items on the shelf, I see every item in the Walther's Catalogue". Naturally he was referring to our 'IMPORT-TO-ORDER' service from Walther's (and Champion Decal Company). Walther's Catalogues - O Scale, HO Scale, N and Z Scales and Decal - give the modeler access to over 40,000 items from more than 300 manufacturers. By utilising our 'Import-to-Order' service delivery of most items can be from 3 to 7 weeks after the customer places his order. As most of the important lines are distributed by Walther's it is not always necessary to own a Walther's Catalogue to be able to use this service. Most manufacturers advertise extensively in one or more of the most popular US magazines. So, what is Import-to-Order, why is it necessary and how do I use it ????

HISTORY

Even a casual glance through the 576 pages of the 1982 WALTHERS 50th Edition HO Catalogue gives some indication of the enormous range and variety of Model Railway kits, parts etc. now available to the modeler. What other hobby can boast of such a vast range to choose from? Given the population of this country we cannot imagine there being enough demand to warrant ANY shop stocking ALL the items listed in the Walther's Catalogue - we find it hard to imagine the size of the shop needed to house it all! How then to make all those thousands of kits, parts, paints and books available to the Australian modeler? Our idea back in 1974 was to offer an 'import-to-order' service whereby customers could place their orders to Walther's through us. Advantages to the modeler would be:- no risks with missing parcels from the USA, no worries about overseas bank drafts, a vast range of goods to choose from and all dealings with a local firm which is subject to all local laws. Disadvantages:- the wait could be 3 months or more - a delay which was frustrating to the customer and uneconomical for us. The service proved to be popular, especially with customers away from the capital cities, so much so that keeping track of who ordered what became such a problem that in late 1980 we installed our computer. Then, partly as a result of what seemed to be a never ending series of strikes and partly because of a 100% increase in the cost of postage from the USA, we switched to AIRFREIGHT. Now the delay can be as little as 3 WEEKS!! We

still have a couple of improvements in the pipeline and we welcome any suggestions you may have on any area where you think our service could be improved.

ORDERING INFORMATION AND TERMS

1. Prices listed in the WALTHERS CATALOGUE are in \$US. Our selling price (as of 1/5/82) is the US retail price PLUS 60%. The difference between Australian and US prices is due to:-

- [a] 34% Import Duty
- [b] 17.5% Sales Tax (also payable on the Import Duty)
- [c] Freight Charges from USA.
- [d] Exchange rate variations.

Should any of these charges vary so will our 'mark-up' over the US price.

2. Apart from some restricted items (eg. paint, liquids or gas under pressure, some adhesives) all shipments from the USA are by AIRFREIGHT. We send our orders about the 20th. of each month. Delivery into our store is usually 3 weeks after we send an order.

3. We acknowledge receipt of your order with an estimated delivery date. This date depends on:-

- [a] availability of items.
- [b] delay caused by industrial actions (or inactions).

4. We send notification when an item has been discontinued or will not be available in a reasonable time.

5. Our computer maintains BACKORDER FILES of all items which WALTHERS have placed on their Backorder list. Backordered items are sent as soon as they are available at our expense (and it's an extremely costly job). Sometimes WALTHERS do not supply an item nor do they CANCEL or BACKORDER it - we automatically reorder such items each month up to a maximum of 6 months at which stage we consider the item to be unavailable and advise you accordingly. Should you require a complete listing of all items you have on order please request same - we do not compile such lists automatically. We assure you that our aim is to SELL model railway equipment and the moment we receive an item which has been ordered for a customer we will forward it. Not being able to supply an item for which we have a definite order is as frustrating for us as it is for you.

6. Orders are processed faster if:-

- [a] a LEGIBLE name and address is on each page.
- [b] full details of all items required are included.

Details we need to know are quantity, manufacturer number, part number, manufacturer, a brief description and the price as it is shown in the WALTHERS Catalogue. The manufacturer number is the first 3 digits, the part number is the next 1 to 6 digits. By giving a brief description and the unit cost we have a good cross reference to check and ensure we order EXACTLY what you want. If you want to be very sure then include the page number or other reference also. Please include a date on all correspondence and orders. If possible retain a copy of what you order - and when.

7. We have good stocks of some of the product ranges listed in the Catalogue in our shop eg. Detail Associates (the FULL range), Kadee, Floquil (all the normal and PollyS railroad colours and the wood stains), Evergreen Scale Models, Walther's Screws etc. etc. Some of the products such as Peco are available to us from local wholesalers at a much better price - naturally in such cases we supply at the lowest possible price.

8. Our preferred method of payment is by BANKCARD, VISA, Diners Club or American Express. This avoids the extra bookwork involved in keeping track of credit or debit accounts, you pay for your order when we supply it - not 3 months before, we get our money when we supply - not 3 months later! Payment by cheque or Money Order is also acceptable. DO NOT SEND CASH !!! For very expensive or unusual (and hard to sell) items we may occasionally ask for at least a 20% deposit.

9. If you are not happy with any aspect of our service please let US know - we can only correct mistakes if you tell US about them.

10. We welcome feedback on the worth or value of any items you have us import. We include any such information in our Catalogue Update service.

11. All customers who buy a Walther's Catalogue from us receive an UPDATE each month. This update keeps you informed of New Items, Delivery Schedules, Price Changes etc.

BROAD GAUGE BODIES

The latest kit from BGB is the METTERS van, a billboard SAR M Van. This kit certainly adds some colour to the layout. In stock now - \$11.95. Due about now are decal sets and 'pre-printed' tarpaulins for the Broad Gauge Models GY (the GY is \$6.85), also from BGB (confusing isn't it?).

VICRAIL MODELERS

Now you have - or should soon have - a nice brass K, N or R Class loco at the front of your train, a goodly number of BGB or Broad Gauge Models goods wagons following it, what is needed to add that finishing touch? What about a painted, ready-to-run, brass Z Van? Price? - about \$65.00. Write for details.

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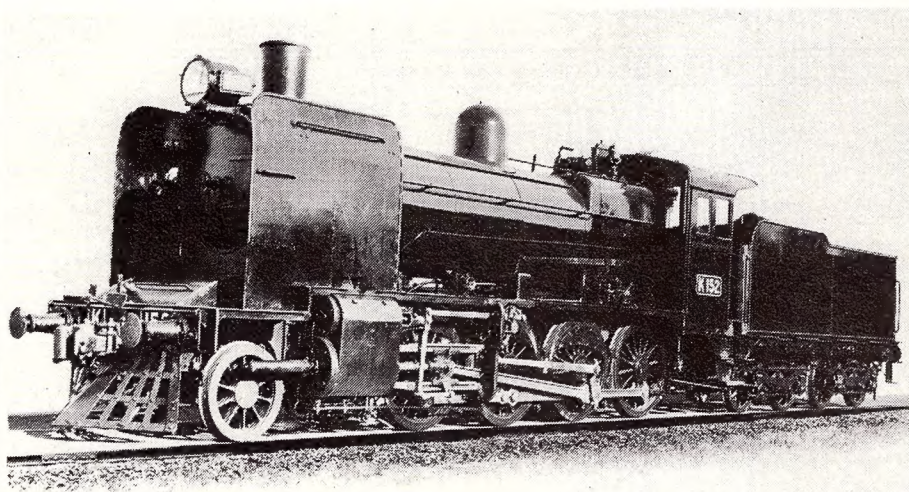
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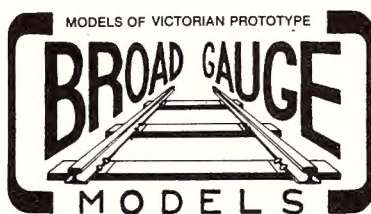
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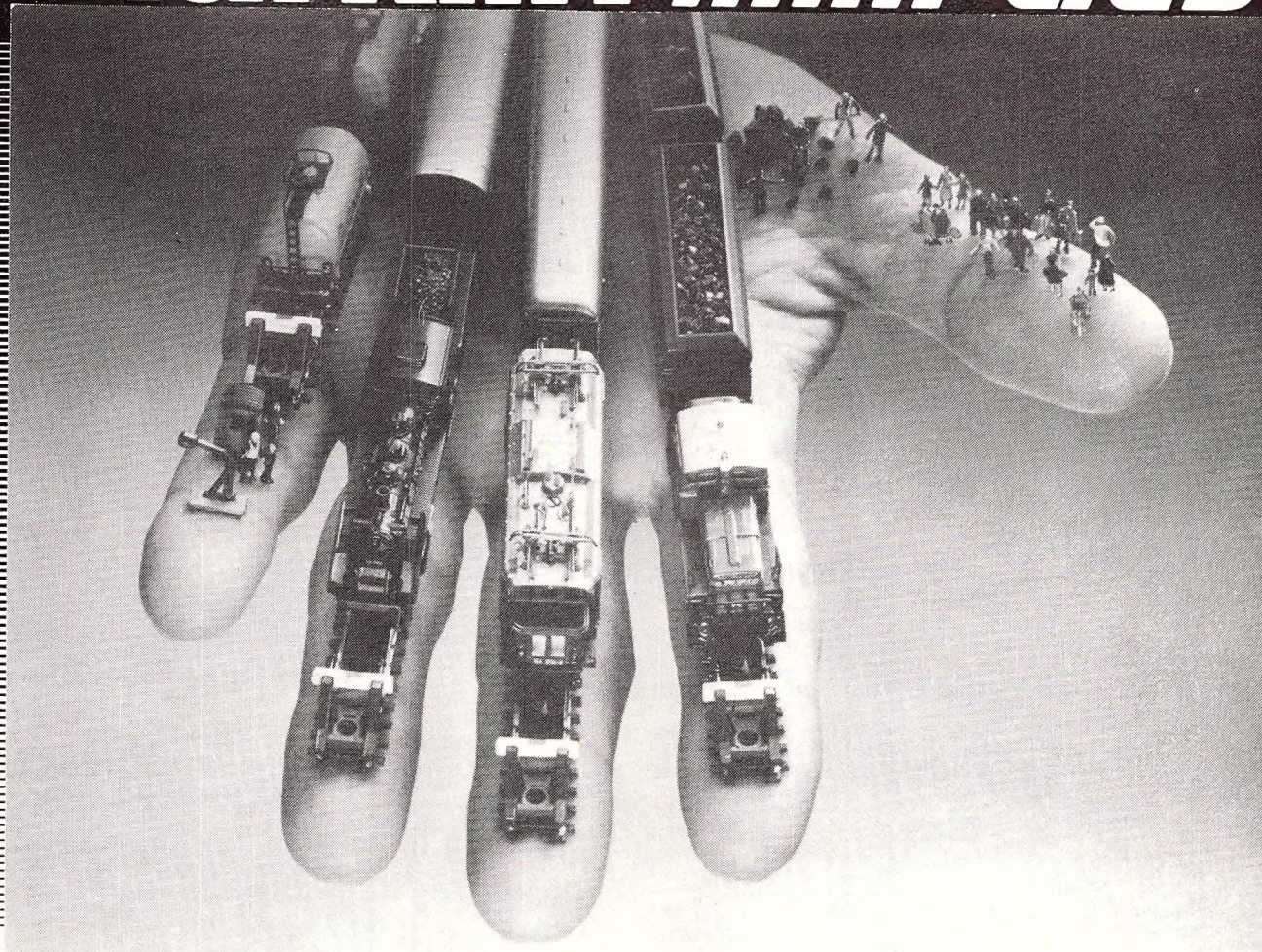
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Australian Model Railway Magazine

COMMENT

In Love with the Throb of Power

Truck watchers love the sight of a big Mack or a K-wopper going past flat chat hauling 38 tonnes. A Falcon GTHO going "rump rump rump" as it idles at the traffic lights is music to the car freak's ears, and for those that love big aircraft, the sight of a Boeing Jumbo defying the laws of gravity as it sags out of the sky for a landing, is pleasure indeed.

But for a railfan, particularly one living in Victoria, the sight and sound of a big "C" class diesel making light work of a 30 wagon consist is a tingling, goose bump making experience.

My first taste of how a "C" assaults the senses, leaving you gasping for more of the same, occurred one bitterly cold, foggy, Ballarat morning last October when my blissful sleep in the back of the Range Rover was rudely broken by the strident trumpeting of a five chime air horn, as the 3am Up Jet from Adelaide exited Ballarat Station yards.

It dawned on my sleep addled brain just then that if you want a few zeds — don't camp in a caravan park right beside the busy Main Western line between Melbourne and Adelaide.

The arrival of the Jet at my prone vantage point was preceded by a growing volume of sound and then a brilliant stab of light as the headlights punched a 500 metre hole through the drifting fog. The distinctive V16 diesel sound grew and grew, covering the immediate countryside with its awe inspiring, demanding-to-be-noticed bellow, until this huge, elephantine, blue and yellow mechanical monster burst out of the concealing mist and was above and beside me.

The ground literally shook with its passing as it hunched its mighty 3,000 hp shoulders into the oncoming grade with 30 odd container flats, open wagons and louvre vans trailing obediently behind. As the wagons passed the clackety clack of the bogie wheels became faster and faster as if acknowledging that the mighty power up front was indeed greater than Mother Nature's law of inertia.

The almost silent passing of the guards van, bathed in the pink fairy floss of its fog shrouded tail lights, was eerie and timid compared to the power and force up front.

As silence decended on the caravan park again I was left drained, stimulated, and yet tensed, waiting. Waiting for the passing of the next "C".

Peter Gibbs

ON THE COVER: The might of the V.R. 'C' class is displayed here by C505 at the head of a Adelaide to Melbourne Jet (express freight) as it powers through Bacchus Marsh in October 1981. Note the position of the mechanical staff exchanger. Photo by Phil Jeffery.

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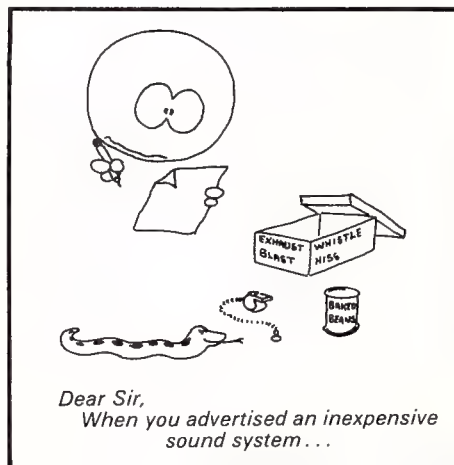
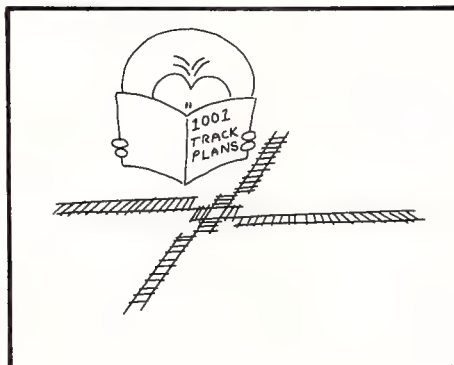
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Coaling at Woodend. The superb HO scale layout exhibited by Graham Brown was on show again, after a few modifications. The coal stage was one of the additions that displays the workmanship of the builder. Graham Ball photo.





**PHOTOGRAPHICALLY
SPEAKING
CONDUCTED**
by
Leon Oberg



READERS PICTURE PAGE

In this issue, I am able to bring readers a couple of photographs by a reader, and widely travelled enthusiast photographer Peter Watts, and it shows some of his material gained from a Tasmanian trip during October 1974. This was of course in the days when the government system was operated as Tasmanian Government Railways.

I think they are a widely diversified selection of shots and they show three classes of locomotives, all of which are today operated by the Federal Government as Australian National.

Peter used a Pentax Spotmatic F for all of these pictures, and Ilford FP4 film at standard rating.

More photographs from Peter will be in a future issue.

At left: X20 and its "tiger stripes" nears Scottsdale with its Launceston-bound freight train.

Below: A yard shunter waves the driver of this multiple engine consist back onto its train in Hobart yard. The engines pictured are (from our lead-end), Y3, Xa3 and Xa1.



MODUS OPERANDI

III. The Lakeland Railway: Factors in Timetabling

David Leaman

The first parts of this series have described aspects of railway operation which can be incorporated in any model system and which can provide realistic constraints on timetabling. This part discusses the construction and evolution of timetables for the Lakeland Railway (introduced AMRM Mar/Apr 1980).

There are five basic factors which determine the form and content of a timetable; layout and routes, stock, time, operating rules, operator capacity and desire.

Layout and Routes

The layout governs possible movements, routes, destinations and hence the timetable. Good designs come with experience and attempts at sound operating practice will soon expose poor or awkward track-work and design. There is an infinity of designs dependent only on space and desire. Good designs are generally uncluttered, clear cut and easy to operate — look to the real thing. In general, this means avoidance of proprietary designs which are usually cramped and unreal.

The Lakeland design, although the result of much experience, has undergone minor design improvements. Use of the entire irregular space was imagined in the original sketch and so the three-end form was always in mind as the stages of building progressed. This overview/ultimate goal is important to ensure that routes remain simple and clear. The major change from the original sketch was Montvale, the turning end point, which had not been contemplated. It has grown to three loops, is essential to high traffic densities, and a prime reason for the operational success of the layout in the hands of a single operator.

When the design was enacted only enough equipment was available to produce Lakeview, Lakeside, the twin main line oval and the Lakeview branch. Material was accumulated until the section comprising White Falls, Montvale and Mountview could be built. Finally came the addition of Portlea. The design was presented in Part I. Other changes, like creeping electrifications at Montvale and Portlea, or extra yard work at Lakeview have affected the operation in a minor way. Thus, with time, there have been destination changes, systematic changes relating to traffic flow (especially as loops have been added at Montvale) and loco usage (new locos or electrifications). The railway has always been maintained within an hour or so of operability, even when major work was underway (block signalling or line re-alignments), by pre-planning work in small stages. It is a psychological plus to have the railway back in action after every work session. Table III-1 indicates the sources of timetable changes.

Tables B and C reflect major changes imparted on a simple out and back A schedule by addition of extra end points. The balance of traffic has also been changed, with time, to bias Montvale since it requires no time-consuming manipulation of trains. Mountview and Portlea, on the other hand, are smaller (than Lakeview) but complete and functional termini and traffic movements to them inevitably mean work. Within each series various versions — most related to loco or stock changes — have introduced additional or rearranged services as minor alterations. As proficiency has increased the laps run have been allowed to fall since better operation, organisation and turn around practices mean less use is required of the main line oval storage fly-wheel. At the same time service density is increased. These aspects are also tied to the clock rate which reflects a need to fit in more trains as stocking of the layout was improved. High clock rates, coupled with long runs, imply few services; low rates and shorter runs, many services. More locos also permit more, and shorter, runs. The main issue is operator capacity and aims for the operation. Mine have always been for the highest possible (sane) traffic density.

Timetable operation has progressed through all stages of layout development; it could have been started at even more basic levels using the same principles. These are

- choose an appropriate time scale
- keep real or imagined routes simple and direct

- for high density incorporate a multi-line turning end point, automatic signalling and as much automatic routing as possible so that a course can be selected using a minimum of switching and where the passage of the train will re-open or close blocks and pointwork
- ensure a cyclical return of stock so that the correct stock or its equivalent is on hand for the same train each cycle

- before attempting to run a timetable verify that the solution is workable by applying stock, line, time tests (see planning the timetable, below).

No timetable is ever perfect and a continual fine honing is inevitable. All railways make small changes from season to season but once you have a good set of movements stick to them. Add, or adjust, as necessary but avoid total recasts wherever possible.

These comments show how things can evolve and how routes can be expanded in a planned way. A good plan, one with a working core (even if only an oval with through station),

can be systematically expanded and stay functional. This is important since it maintains interest and yields operational experience as it grows.

Stock

The amount and range of stock owned by a railway determines the services it can provide. The Lakeland Railway has always provided passenger and goods services. This imposes more demands on the operator — especially if the goods service is comprehensive. A mixed system must be treated initially as though it were goods only in order to evaluate the time demands implicit in the manipulations of the trains. Once a set of interlocked goods services has been worked out to permit 'daily' transfers between all sites, and in which wagons are guaranteed layovers of at least one quarter cycle, then the time available for passenger services will be apparent. Since these may also need formation, a time use schedule is needed. This yields the operator time use guide explained in Part IV. When formation timings can be estimated the mix of services can be rotated or arranged in the cycle to yield any specific emphases — like peak hours. Apart from stock volume and stock storage, platform space will decide how easily trains can be turned around and how much transfer time is needed. This will be unique and individual for each layout.

On the Lakeland Railway terminal platform space (7 platforms) exceeded coach strings until recently and turn around was rapid unless a formation change was required — even if the same loco was to be used on the outward journey. Even when most strings were at Lakeview two near platform storage lines coped adequately. More stock meant more storage but since a lot of it is used for extras, duplicates and augments, transfers to and from distant storage remain minimal. A similar situation applies to locos which, like coach strings, are used as members of equivalent service groups. Loco holding bays are therefore key parts of each station. Loco power is now such as to ensure no loco is overworked, each has a long term average of about 25-30 laps per cycle, although the system could be worked, with difficulty, by only nine engines.

When timetabling was introduced two axioms were set. Each loco would have the equivalent of a return run over the layout and all stock would be used. This immediately decided the number of trains. Locos and stock have since been increased in the ratio of 1:6 and the rigorous application of both rules has been dropped. However, the effect of equivalent use categories for locos and coaches is the same in the long term. Locos 141-1, 141-2, 1141 for example are light electrics which share local service working and the night mails D203/4. Instead of insisting that 141-1 always work the mails, the roster gives each a turn merely by having an odd number of usages in the schedule. With some steam locos there is alternation or relief working. Thus cl 44, 86 share G137/144; the cl 44 2-10-0 taking the train when it is augmented and the cl 86 2-8-2T when contract only. Reliefs are always on hand. Further reduction of the clock rate would remove these but I now believe it to be a good idea to fix the rate at some stage and carry reserves. It is more realistic and allows rearrangements for specials and break-downs.

The goods wagons are also now treated differently as described in a previous article on Freight Forwarding (AMRM Jan/Feb 1981).

TABLE III-1

Series	Versions	Destinations	Routes	Locos	Laps	Clock rate
A	2	Lv, Ls	Lv-Ls	7	20	12:1, 10:1
B	2	+ Wf, Me, Mv	Lv/Ls-Me/Mv	9	22	8:1
C	4	+ PI	Lv/PI-Ls/Wf-Me/Mv	17	12	6:1
D	4	+ 2nd Me loop, PI part elect.	"	21	12	6:1
E	1	+ 3rd Me loop, PI elect complete	"	28	12	6:1

Automatic block signalling was installed on main lines and Lakeview branch during A(2). Lv = Lakeview, Me = Montvale, PI = Portlea etc.

As the wagon population increased the industries of Lakeland were settled and contract allocations confirmed. Newer wagons are added to railway service (like ballast) or to general request stock. The yard extension at Lakeview was largely required to support additions only occasionally used. By timetable C the number of goods services which could be managed had been decided and the axiom of every wagon 'having a daily run' was dumped. Each wagon does have its turn, contract wagons being used cyclically, while wagons designated 'request' are used erratically.

Efficient stock and storage use is also aided by the use of a matched departure system. Thus one goods train leaves Montvale within 15-45 minutes of another arriving, or one passenger train leaves one end of the system at about the same time as one leaves the other end. This is a common prototype practice; A/B to C/D and C/D to A/B. Various combinations are possible.

Clock Rate

The clock rate is a critical and, to some, a controversial item. I believe real time to be inappropriate in the model situation since — any model is a condensation of prototype in more than size and this shows in operation: platform/train lengths, yard scale, total line length, working times, 'brake testing' and 'coupling'. Even if we operate at scale speed in real time we will be able to form a train — or whatever — in far less time than is true of the prototype.

— main line running yields no sense of great distance in real time.

— traffic density could be unrealistic in real time due to high generation rates — stock available — or there would be long blank periods.

— time units are too coarse in real time even at scale speeds over the short line segments found on layouts.

The solution to all four dilemmas is a fast clock. There are three ways to obtain such a clock; modify a conventional clock, fit an adjustable motor to an electric clock or modify a suitable digital clock. The latter two alternatives yield the more flexible clock and which can reserve a switch off time. This means that one is not forced to complete a cycle in one session. Seek advice of a friendly electronics buff if necessary.

The choice of rate is not easy and is why the clock should be adjustable. The rate must be related to the size of the layout and the number of trains run per cycle. If the layout is small a high rate will make it seem larger and will stretch marshalling times, but the number of trains run will be reduced. Some experiment will be needed to establish a workable rate but it will probably lie between 6:1 and 18:1. The higher rate is only practicable for a simple layout with minimal stock. Consider the basic oval of the Lakeland Railway where a train travelling at about 100 kph scale speed will take about one minute per lap. This could be stretched to 18 minutes (at 18:1) or perhaps 22-23 allowing for speed changes and accelerations to make a worthwhile stop-to-stop run for one lap. The apparent distance in HO is $17 \times 87 \times 18/1000 = 27$ km (metres $\times$ scale $\times$ clock rate). This rate may be too high for a layout with a fair amount of shunting. For example, marshalling occupying ten real minutes would imply 180 minutes on the prototype when only 90 is taken. Thus a factor of 9:1 would be more realistic. This, however, reduces the time-distance gain on a run and might mean two laps of the oval, not one. The decision on rate is thus dependent on many things, all individual.

Stability of the clock rate has finalised the geography of Lakeland for a given number of laps of the oval. The current end to end run including 12 laps is a good balance of scale distance, interest, activity, traffic density, mod-

erate running and not too much repetition (40% of the oval being concealed helps).

Operating Rules

Parts I and II have outlined the operating considerations and rules that are incorporated in timetables for the Lakeland Railway. These will not be repeated here.

The Operator

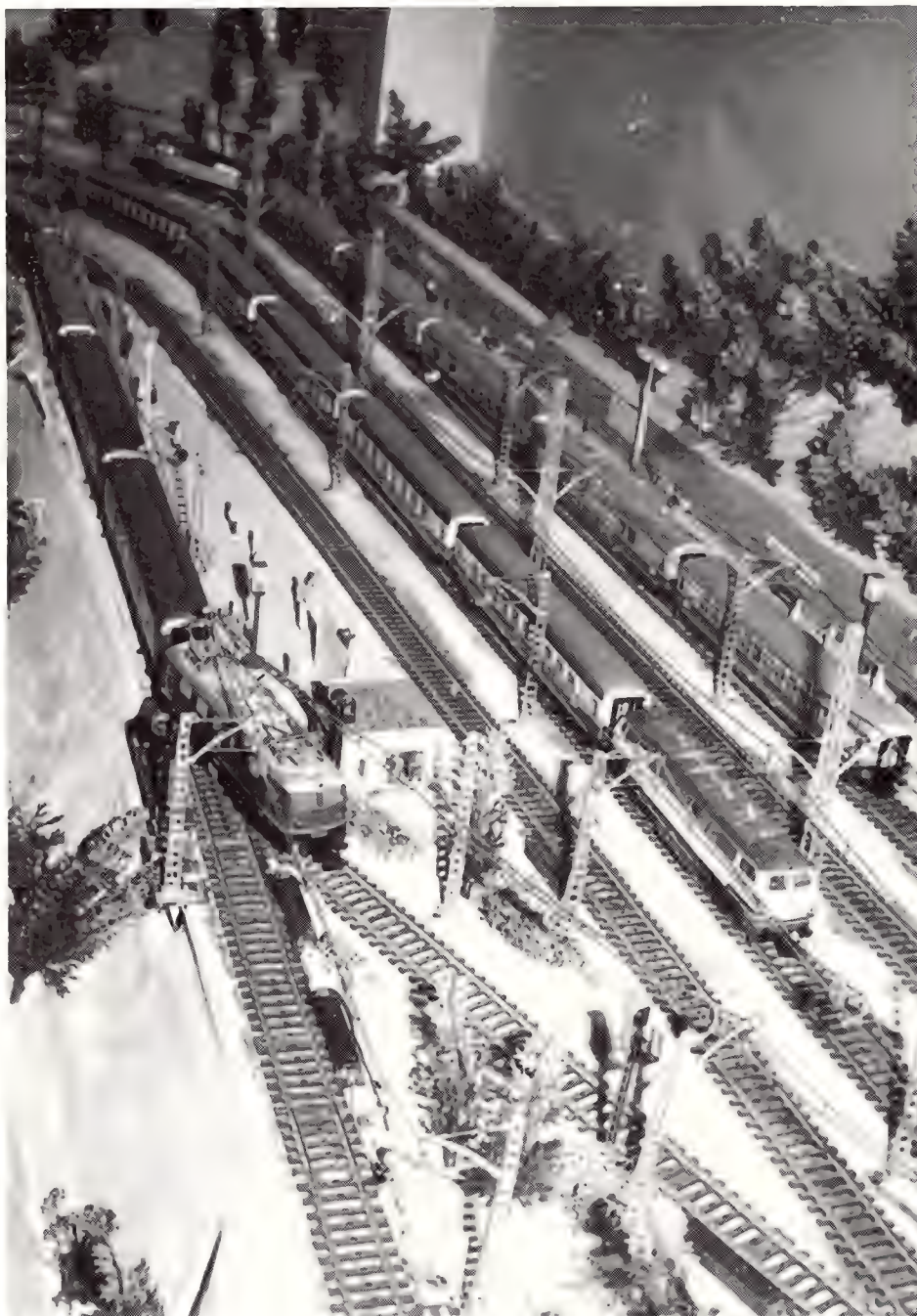
Operator capacity is readily understood. Since we are each restricted to two hands we must ensure that simultaneous adjustment of more than two trains is not normally required. No overlaps are scheduled on the Lakeland Railway but these may still occur if one train is on time and others early or late. It can happen that 3 or 4 trains may require alternate and close management. Individual capacity improves with experience, knowledge of the layout for train responses, speed judgments by eye, etc. Layout convenience, good access and remote control of accessories make for high efficiency. Similar considerations apply for group layouts but are more demanding on a densely trafficked solo layout like the Lakeland Railway. How the timetable is assembled, with provision

for the sanity of the operator, is described in Part IV.

Other Factors

Line capacity: This may be a variable. On the Lakeland Railway the catenary and blocks on each main line permit up to 3 trains, the Lakeview region can cope with two, and one each in the Portlea and Mountview regions. The high capacity of the main lines is important but not as significant as operations elsewhere for operator concentration. If the lines can carry more than one train (especially in oval situations) then there should be a reasonable match of speed types or block stops will be too frequent. No express passenger would care for that and the management will endeavour to provide him a clear line. How this balance is achieved for the Lakeland Railway is also covered in Part IV.

Lapping: The Lakeland Railway uses several laps of the main line oval on certain routes. How does the operator keep track? Easily if only one or two laps are involved, but for 10 or 12 laps he must do one of two things. Either install counters, resetting them at 'midnight', with a note of how each should read at any key



2342: EI: Friday night: D203 waits to access the down main line while D217 rushes by. The up main line is clear, IC16 having just stopped at Lakeside.

points in the schedule so that trains can be plucked off correctly. Or, he can rely on his speed control timing measurements. I have found the latter system can work within a few seconds and that trains can be picked off on the right lap. When trains are late there are still options. Run at normal speeds and pick off with allowance for the lateness, or accelerate the train. In either case a small pad is needed to note the time correction and in the second one must have an easily read chart of loco performance indicating how much time can be legally gained per lap for the laps remaining. This requires confidence and experience but is very satisfying and realistic.

Planning the Timetable

Individual intentions govern the production of a timetable but I have covered all the points which may be incorporated, including speeds, restrictions, stops, etc. The assembly and traffic bias is always original. However, the construction — whether simple or complex — re-

quires specific consideration of platform, loco, coach or wagon usage, line and circuit usage, operator time and spare time.

For example, after a flash of inspiration a timetable chart may be extant with indicated speeds as specified by the operating code. But will it work? First assign motive power. Then check over the pattern of usage (if locos are exchanged or re-used) to ensure that the same or equivalent loco is ready for the same traffic in the next cycle. Then check that the coaches or contract wagons work out in the same way. These checks will soon sort out the balance of a proposal and require following everything through. Some additions or deletions might be required, in which case the loco pattern might need re-allocation and re-checking. Then check out use of platforms and storage space (locos and stock). This will show if any station is overloaded — even if temporarily — and which strings will need clearing to the yard or whether the platforms are being used efficiently.

Then there is line and circuit usage. Check, train by train, or movement by movement, that no unplanned duplications occur. The easiest way to do this is to draw a time-circuit use chart for the timetable. To this can be added an operator concentration time line which will be made up of numerous short segments representing time when his hands and eyes will be occupied by scheduled movements. Any gaps will indicate breathing spaces for time off, watching, shunting, preparations etc. If the operating time is so full of train movements that there are no comfortable gaps for marshalling then the timetable is doomed to failure.

The timetable may be rejected or modified by any of these essential pencil tests. No actual running should be attempted until all checks clear. The time-circuit-line chart so essential to a good timetable is demonstrated in Part IV. After the main checks additional details can be worked out. When will the locos fuel, etc?

Incidents

One further item can be included in our operating system. Its equivalent will not be found in any prototype manual, but then we do not have the vicarious load variations that a diverse population can produce, nor the natural disasters. Goods systems can be devised which create variation and we can specify that certain trains on certain days will have a different but described consist (e.g. E3181 on Wednesdays). These variants are catalogued and predictable. The Lakeland Railway timetable uses this type of variant (including additional trains on certain days) but is also spiked by a random incident system to provide the unusual.

To provide normal variants it is necessary to keep track of cycles completed from the introduction of the timetable. Thus cycles 1, 8, 15 ... represent Sundays.

In the relative slack of 2130-2230 of each cycle I shuffle a pack of playing cards and draw one. This is far simpler than sets of specially prepared cards. The meaning is interpreted as follows and applies to the cycle starting at 2400 hours. Where further deals are required the whole pack is used. Charts are used where multiple deals have meaning. Thus one is available for locos, line sections, time of day, etc. In these the pack is shared out either in proportion to importance of the item or evenly (time). Thus particular items can be identified. Ace/two Clubs = loco 103-1 or 7 Hearts = 1500 hrs etc.

Spades: Ace: Loco breakdown; shipped to Portlea works for 24 hours effective immediate. Loco and time of breakdown found by two further deals.

2: Loco maintenance; shipped to Portlea as soon as possible, duty can be completed but must stay at Portlea for at least 12 hours. Deal for loco.

3: Ballasting; train of ballast wagons to occupy line section for one hour. Must be organised to arrive on time. Deals for time and line section. Time shift of up to an hour allowed if line busy.

4: Line repair; requires a 30 minute halt. Time and line section deals; a one hour shift is allowed.

5: Cancellation D209/210; IC9/10 will run irrespective of season but make all stops usual to D209/210.

6: Extra grain service; occupies time slot 531/540, Portlea to Montvale return.

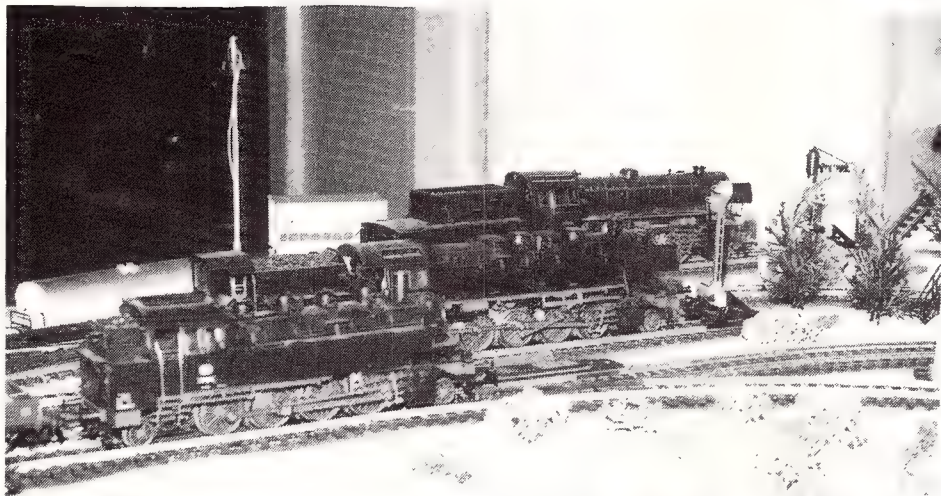
7: Duplicate IC15/16; runs 15 minutes behind.

8: Overnight railcar service (Mountview-Portlea-Lakeview return)

9: Holiday; run as for Winter Saturdays (very busy schedule). Caters for sports, excursions.

10: Loco maintenance, as for two spades.

J: Increased demand; trains E3171, 3181, 3191 may require extra stock. Deal to decide which



When steam was king! Portlea before electrification. In the foreground a cl 86 2-8-2T with G151 waits in the departure line while a cl 50 2-10-0 and a cl 23 2-6-2 stand in loco spurs for their next duty.



A string of ballast wagons with a cl 23 2-6-2 wends its way slowly down from Lakeview en route to a work site near Lakeside.

Continued next page

train, then another deal of three cards to yield new content. (e.g. H = 1st class car, D = 2nd class, S = nothing for randomness, 1-6 C = rest. car, 7-K C = baggage car).

Q: Flood, washout; services cut for six hours. Deals for time and line section. Emergency rules to apply.

K: Landslide, blockage; 2 hour disruption. Deals for time and line section. If an oval main line section is drawn redeal for line, black card is down line.

Diamonds: 1-4: Ballast train transfer, slotted when possible, max speed 65 kph. Lakeview-Montvale return, hold time at Montvale to be five hours, minimum.

5-K: Lumber train; Lakeview-Montvale return using slot 531/540.

Of these the Queen can be devastating. Many are quite easy variants but others can be awkward depending on the re-arrangements required. The Jack can be nasty if the train to be enlarged is already large as a result of a specified day increase, forcing a split.

The odds are against anything happening and normal running generally occurs. The weight of the diamonds option yields a moderate frequency of extra freights or service trains. The timetable caters directly for extra freights by including an interval for them. When an event is drawn, it is recorded and the cycle operated normally right up to the time indicated. In every case there are rules which can be followed, although some traffic may be cut or delayed in the resolution, depending on the problem. Add an occasional accident to all this and you obtain a total and challenging railway operation. But the timetable must be built to permit such options and the necessary stock has to be extant somewhere on the layout.

Summary

The timetable will reflect extant stock, state of layout, operator ability, experience or requirement. Its success depends on the choice of clock rate, avoidance of train mismatches and an ample allowance for marshalling. Problems should be assumed and the schedule should allow some slack periods; for the operator rather than for services. Multi-operator layouts can be run more flexibly and densely.

The final part in this series draws this collection of notes together to show how the Lakeland Railway is actually operated by a single operator and how the timetable is 'read' in terms of line use, circuit use and operator time.

Other articles by David Leaman include:—
The Lakeland Railway AMRM Mar/Apr 1980
Freight Forwarding AMRM Jan/Feb 1981
MODUS OPERANDI

1. Introduction to the Operating Code
AMRM May/June 1981
2. Pillars of Operation
AMRM Sept/Oct 1981

Next instalment in the MODUS OPERANDI series, Part 4: In Action will be published in the October 1982 issue of AMRM.

Full Circle

One man's way of sharing his hobby.
by Ted Ward

There are many facets to this quite wonderful hobby of ours, as anyone who has been involved in it for a while knows. I am not going to launch into a long list of the many various skills and experiences one develops as time goes by. In trying to explain the hobby to beginners or non modellers, an attempt is sometimes made to do just this, but never can one see a list of the literally hundreds of creative experiences which come from making just a few models. And never have I seen mention of philanthropy, "the inclination to do, or practice of doing, good to one's fellow man". (Oxford)

Railway modelling shares with most other human endeavours the old philosophy that 'the more you put into something, the more you get out of it.' Having practised and enjoyed the hobby for many years, and having in that time amassed a satisfying amount of equipment, I decided the time had come to see what I could do to 'put something back into the hobby.'

I believe most of us are in this same position. We have a quantity of trains and bric-a-brac, books, tools, unassembled kits, spares, you name it. And it is all interesting to other people. Especially to young people, and school children are very interested.

So I decided to see if the local school was interested in my staging an exhibition of trains and things. I approached the librarian, and asked her if she was interested. A date for my display was fixed, and I set about preparing for the show. And it was here that I realised I had stumbled upon a great truth. The joy of owning equipment is magnified when it is shared with others. By this, I simply mean letting others see it, not of course letting them get their hands on it.

Going public has other advantages too. Suddenly, I found incentive to finish little projects which had dragged on interminably. Suddenly, all things were different. Gosh, this was going to be seen by hundreds of kids, and they are all honest critics. So in the few weeks I had to show-time I worked steadily towards making things suitable for display. A large light glass case was made, to house historical and books, a case with lots of narrow shelves for rows of trains took shape. Some tatty models were cleaned up, some were re-painted. Signs were lettered to put names on some things which most of the kids had never seen before. I was working with a new stimulus and incentive. By the time the date for the display was reached, everything was ready. I set the display up on Friday afternoon, and hoped for the best. The success of the exhibition was quite spectacular. The local paper came and ran a story, illustrating it with a picture like the one here used with their permission. I appointed my eight-year-old son as 'Information Officer' complete with badge, and he kept the shop during lunch hour for the two weeks of the exhibition. Of course, an important principle with

exhibitions is audience participation, no matter how meagre it may be. So I left a visitor's book for the kids to record their impressions. They filled pages and usually simply commented 'Very interesting'. The children were encouraged to do one other thing, and for this idea I am grateful to the librarian, Mrs Alie Blackwell, who thought of it. The kids were allowed to make pencil rubbings of builders plates. Now there's an art form not widely practised, but an idea for all of us. Builders plates aren't in everyone's train room, and are not likely to become so, with their unavailability following the now total demise of steam. But what is wrong with an artistic pencil rubbing?

That exhibition was only the first. As I write this, I have just finished a one night display at the air force base I am stationed on, where the local branch of the RAAF Women's Association held an Arts and Crafts Display. You bet I think railway modelling is both the most arty and the most crafty thing around. Next Saturday, I will be staging a display for the local scouts fete, and straightaway move to another large school in town for two weeks.

There are a few rules to go by if you wish to do as I am doing. Choose a school which is convenient for your first show. This will probably be the nearest, but you can judge for yourself. Ensure that everything is tamper proof. I have never experienced any trouble anywhere, but then, all my equipment is behind glass. Certainly take as much as you can, be it models of trains or buildings. Mount all your pictures in frames or with stiff backs. Take some string and tacks to hang your charts and pictures. You will need a hammer probably too. You may need backing paper to place behind some models to highlight them. It is worth including a visitors book for the reasons I have explained, but it will serve as an interesting record of your displays.

There is an even grander purpose behind the above than what I have so far revealed. I am pleased to be able to recall reading copies of the old Australian magazine 'Hobbies Illustrated' circa 1946, which first introduced me to this hobby. I have made mention of this in my article on early Australian modelling published in AMRM in March / April 1977. Perhaps it was this early exposure to modelling which has led to my present pre-occupation with the hobby. I hope that my efforts in the various local schools will inspire more young people to take up the hobby. This article has been written to induce those so inclined to get into school exhibitions. They are not really all that much effort, a lot of pleasure is given to a lot of people, and the rewards are real, if subtle. It is forward planning too, for the more future modellers we have, the better for all of us.

In my new role as encourager and motivator, I feel I have come 'full circle'.

THE MILITARY BASE

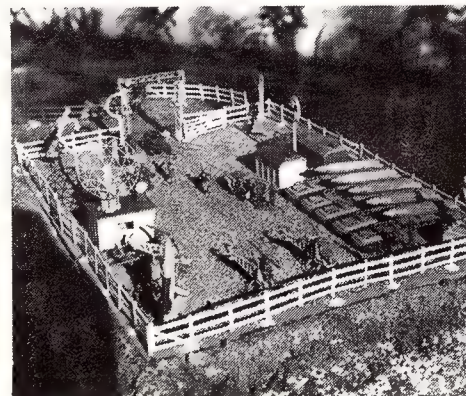
This scenic area is 260 mm x 340 mm and is made from five rockets and their carriers from G. J. Coles moon rocket set. (Although 1:1200 scale, they scale 5 m in HO (1:87) scale.); four helicopters from Atlantic 1:87 sets; four ground-to-air missiles (one in each corner) from Atlantic; figures from various Atlantic sets; three buildings from Triang lineside huts; the radar dish came from a breakfast cereal packet in 1970; lights and fence from Airfix; the entrance gateway from 3 of the 1:1200 rocket gantries; petrol drums from Kibri; The WWII

jeep and the two German wagons are, as I have been told, from Hogan's Heroes, and a light green Faller scatter grass was spread over the base to complete the model.

From these notes it can be seen that various bits and pieces can be put together to make effective scenic areas, so why don't you have a go.

I hope some who avago write in since I am needing some ideas to fill up a couple of spaces on the layout.

Peter Kelly



Building 4 Wheel Goods Wagons

A HIGH SIDED "B" WAGON

or

One For Those Who Like A Mystery

There have been two classes of wagons to carry the designation "B". The first "B" class was amongst the earliest placed in service by the NSWGR and grew to be a class of 222 by 1889. Their design was obviously influenced by British practice and with their short wheelbase, low capacity and not so robust construction they were all retired from revenue service in the early 1900's.

The second NSWGR class to be designated 'B' appeared during the Second World War but it is here that the element of mystery is encountered as research has failed to find much hard data on the class. The accompanying photograph illustrates what is believed to be class leader 23100, which was introduced in August 1940.

If this assumption is correct then two further questions arise. Why, if the vehicle was built in 1940 were a wooden underframe and sides used when steel parts were usual well before this date, and why do the top two planks appear to have been added to a basic four plank design?

Research has not provided much in the way of clues and the following educated guesses are offered as explanations of the class's origin.

The photograph of 23100 clearly shows its similarity to a "D" wagon. Remove the top two planks and the overall dimensions of the "B" are almost identical to those of a "D" wagon. The early "D" wagons were all timber vehicles as is the "B". This suggested then that the "B" class might have been created by rebuilding old "D" wagons. The corner brackets in the photograph show clearly that the top two planks were added to the rest of the vehicle further suggesting the rebuild thesis.

I was ready then to accept that the rebuild idea was probably the explanation but the apparent newness of the vehicle still puzzled me and it was left to Bob Merchant to suggest a further possibility.

Railway workshops generally keep a large stock of spare parts on hand for repairs and it is just possible that as a war-time measure and the resulting shortage of steel it was decided to use these spare parts to create a new class of open wagons. The top two planks could have been added to "D" wagon spare sides to increase capacity of the new class thus explaining the new vehicle and the peculiar door and side-plank arrangement.

This seems to be the most plausible explanation but any reader with more details might help through Mailbag.

One hundred and ten vehicles were built and were numbered 23100-23102, 23104-23118 and 23120-23211.

The only photographs I have seen of the wagons in service are on coal carrying duties and this was probably their major use.

Well, that's about all the background information; mostly conjecture as it is but this just makes the vehicle all the more interesting. With its unusual high sides the 1940 "B" class wagon is a unique vehicle which often draws attention from fellow modellers and railway enthusiasts and will earn its keep in revenue service.

Introduction

This article is part of a series flowing on from an introductory article which appeared in the Nov/Dec 1977 issue. If you have that issue you could re-read the first article but it is not

necessary as this article is self-contained.

The main thrust of that introductory article was to point out that the major problem to be overcome when building four-wheelers lies in the construction of an underframe which is at the same time both sturdy and free-running with correct balance so that all four wheels sit evenly on the rails.

This together with good track and correct weighting has, in my experience, been more than enough to ensure trouble free operation without resorting to the extremes of springing sometimes advocated by English modellers.

This concern with the underframe will be a recurring theme throughout this series of articles.

Materials

The wagon being modelled here has a wooden underframe which is best put together from Northeastern timber and, as pointed out in that first article, open wagons with their thin floors virtually dictate the use of individual axleboxes of the Mopok or similar type.

The Mopok range is imported by Fyren Models, Melbourne. The Mopok wagon axlebox is an excellent representation of the NSWGR type and is a good quality casting. I have investigated just about every type available and quality and accuracy find them by far the best. In Sydney, Keith Hudson has occasional supplies, but you have to be on the lookout for them. In the end to overcome supply problems I wrote direct to Mopok in England and had a large quantity sent out. This has solved my supply problem and if you intend building many four-wheelers you might well consider doing the same. (In time I hope to cover about ten different four-wheeler classes in this series of articles.) I have so far constructed about thirty wagons and anticipate eventually having a goods wagon roster which will include over one hundred four-wheelers.

I do have a few axleboxes surplus to my requirements which I will make available to anyone who is having difficulty obtaining some for scratchbuilding.

Northeastern timber is also difficult to obtain in Sydney but Model Dockyard in Melbourne carry the full range and their mail order service is excellent. A pleasing development in Sydney at least is the increasing availability of Camino Scale timber which is an excellent substitute for much of the Northeastern range. (See Reviews Sept/Oct 1978.)

Many scratchbuilding materials are often hard to get so I maintain a stock which I top up with the relevant item when it becomes available.

Finally, before we get on with the actual construction, a word about glues.

I use four varieties of glues in most construction projects. Where eventual strength is combined with the need to make adjustments to the parts being glued, for example the gluing of the axleboxes to the sidebeams, I use a five minute epoxy such as Araldite.

For most other applications I use Superglue 5000. Don't believe what they say about not gluing wood as it works perfectly. Being an impatient type I like the instant result. One drawback that it has in common with most other glues is that it prevents the wood from taking stain, so the word is to use it sparingly.

Walther's Goo is another glue which comes in handy. A little dab on the parts to be joined

and the two parts can be put together and located correctly before the glue dries. It has the advantage of not being a liquid glue and so will not run out from joints to spoil the model as parts are squeezed together.

Finally the old standby Selley's white glue (Aquadhere) is always handy. It can be watered down, poured and dries clear. It is also cheap.

Construction

From scale timber 9" x 4" cut two 17'4" lengths for the solebars or sidebeams. Measure in 3'8" from each end and mark this point with either a sharp pencil or a knife. These marks locate the centres of the axleboxes.

Next take four Mopok axleboxes and add the MGW bearings. (Other axlebox types can be dealt with in a similar manner.) This is simple enough as the Mopok axleboxes have a cast-in indentation to take the axle point. This indentation needs to be deepened a little to take the brass bearing and this is done with a $\frac{5}{64}$ " drill held in a pin-vice. Once this is done the bearing should fit snugly in the hole with the collar of the bearing sitting flush against the rear of the axlebox. A little superglue will hold the bearing in place.

The top rear of the axlebox which sits behind the sidebeam will protrude above the beam if left as is so remove sufficient of the rear wall of the axlebox so that it will sit below or level with the top of the sidebeam.

Once this is done glue two axleboxes to the sidebeam with the pencil marks at the 3'8" points. To do this place the axleboxes face-up on a flat surface and superglue the sidebeam in place. The axleboxes have a dimple on the bearing face which accurately marks the centre of the axlebox and this should be aligned with the pencil mark on the sidebeam for accurate 10' axle centres. Use a flat surface to ensure that the axleboxes are square and in the same plane. I usually just tack the axleboxes in place with a drop of Araldite and then if adjustments are necessary they can be made before cementing them firmly in place with superglue.

Now comes one of the two most important tasks for the building of a stable, free running vehicle. This is the attaching of the axleboxes to the second sidebeam. The method of attachment is similar to that outlined above for the first sidebeam, but it is crucial that the placement of the axleboxes on the second sidebeam be identical to that of the first so that the axles will be parallel when the underframe is complete.

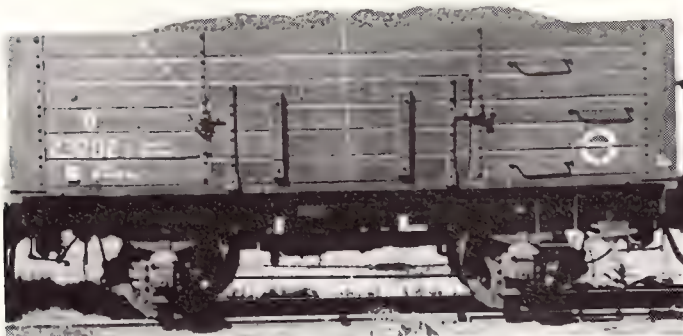
My method is to lay the first sidebeam face-up on a flat surface and use the dimples mentioned above as a guide to locating the axleboxes on the second beam. Use a small engineering square to keep the beam ends level and the first beam steady. Glue the second set of axleboxes in place using a five minute epoxy to give you time to make minor adjustments. Check for accuracy by aligning the dimples and by placing the axleboxes back to back. You can easily see if they are in alignment and when satisfied add more glue.

You may find this part a little fiddly but don't be afraid to remove the second set of axleboxes and start again if the two sets are not identically located. The extra effort will be worth it in the final model. After using this method several times I found I could turn out

Right: Class leader 23100, freshly painted, was introduced to traffic in August 1940 and withdrawn in July 1958. Note the weld marks on the metal corner sections and that the door is only four planks high on a six plank wagon. Note the lack of buffers and the automatic couplers. A comparison with 'S' 17635 shows how close the 'B' resembles the 'S'. Photo courtesy of the S.R.A. of N.S.W.

Below left: Note the detail variations between the class leader (B 23100) and B 23202 above. The weld lines on the corner sections are not visible, suggesting that it had been made in one piece, and the handrail on the right hand end are in staggered positions. Photo Noel Thorpe collection.

Below right: The photograph of 'S' 17635 illustrates the style of four wheel open wagon of the early 1940 period, the resemblance to the 'B' wagon, especially with the planks and metal work, can be seen. Note that the shunters' step is mounted on the side of the wagon and not on the underframe which became standard practice for 'S' wagons. 'S' 17635 was built totally by Clyde Engineering and entered traffic in May 1943, and was used for departmental work as L230 until it was withdrawn from service and scrapped in March 1960. Photo courtesy of the State Rail Authority of New South Wales.



The above photograph of D 5566 illustrates the similarity between the 'B' wagon and the 'D' wagon. Note the door and corner detail. Photo Noel Thorpe collection.

Just to add a little more variation to the debate, the photo of D 6784 is included above. While the door detail remains similar the corner metal width is different. Photo Noel Thorpe collection.

sidebeam pairs with accurately located axleboxes every time with no fuss and the resulting underframes are excellent.

When you are satisfied with the sidebeams put them aside and tackle the next section which is the floor.

The floor is cut from Northeastern scribed sheet with the $5\frac{1}{2}$ " ($\frac{1}{16}$ " spacings. Cut a piece $17\frac{1}{4}$ " long by 7" wide making sure it is square as you do. Also from Northeastern sheet cut two pieces $17\frac{1}{4}$ " long by $11\frac{1}{2}$ " wide. I cut these from Northeastern sheet with the $\frac{1}{16}$ " scribbings as this produces a plank a scale 11" wide which is near enough. (To compensate you could cut the floor decking 1" wider but in HO 1" is not noticeable.) The two planks are to be glued along the edge of the floor decking to give a floor width of $8\frac{1}{2}$ ".

Place the scribed flooring on a flat surface and attach the 11" wide side pieces. I used superglue and placed a weight on the flooring to keep it flat. This process only takes a minute or so. The superglue seeps into the timber and

as it solidifies adds rigidity to the timber. I have never had any problems through warpage when using this method.

Next cut two end beams from Northeastern timber. I used a section of stripwood measuring 14" by 4". Cut two pieces $8\frac{1}{2}$ " long and then remove the bottom corners at each end as shown in the accompanying diagrams.

Gather together all the pieces prepared so far and survey the position.

The floor, endbeams and sidebeams with axleboxes attached are to be joined together to get a stable, even running base on which to build the sides. The following method of putting the components together is the method I prefer and have had the best results with but I'm sure a simple jig could be designed to achieve the same results.

What I find I need is a method which allows the sidebeams to be manipulated to get the axles parallel (they should be if the above steps work out correctly) with all four wheels sitting on the rails. This method does this by

having the sidebeams wedged between the endbeams which allows testing for accuracy to be carried out before final gluing.

Right then, attach the endbeams to the floor by placing the floor section bottom up on a flat surface and butt gluing the endbeams against the floor ends. Use a straight-edge and square to keep the end beams square and perpendicular to the floor section.

Place the two sidebeams approximately in position with the wheelsets in place. I usually use Bergs 10.5mm spoked wheelsets but a recent addition to the range of available wheelsets which I have used is those produced by Cavalcade Miniatures. The tolerances are not as fine as Bergs' but they are a good wheel and only half the price. The key point for reliable operation is *NO PLASTIC* wheels or axles. If the sidebeams fit tightly between the endbeams then you should be able to get the positioning right without too much effort. A little five minute epoxy behind the beams will help hold them and still allow ad-

justments to be made.

Adjustments should be made until the beams are parallel with each other and with the edges of the floor. The axles should also be parallel with each other and with the floor.

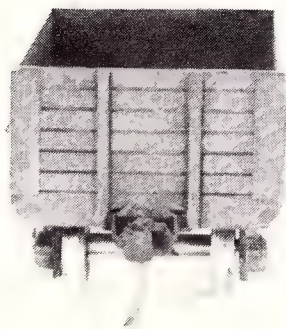
The final test is to place the underframe on a piece of test track (see Neil Graham's article in the Jan/Feb issue for the construction of an ideal test track) and check that all four wheels sit evenly on the rails and that the underframe runs freely.

Do this test before the epoxy is dry so that minor, final adjustments can be made.

This process may sound fiddly but it is not difficult and with a little practice an excellently performing underframe as just described can be put together in an hour. From this point any one of half a dozen body types could be added to model the backbone of the NSWGR four-wheel fleet.

The resulting underframe is shown in the accompanying photographs.

The sides which complete the basic model are cut from Northeastern scribed timber with



The floor and underframe ready for the sides.

The door planks are held together on the prototype by two pieces of timber each measuring 4" x 2" x 2'3". They are located 2' in from each end of the doors. 4" x 2" is a size available in Camino timber or it could be filed down from Northeastern sheet.

The vertical end-reinforcing beams can now be added. They are cut from 4" x 4" timber (again a Camino size or Northeastern) and run the full height of the ends. They are located 3' in from the sides.

The basic vehicle is now finished. At this stage it should be given a light coating of stain. One of the reasons I prefer modelling in wood is the ease with which it can be stained so that the wood grain is not covered with a coating of paint. I generally use Humbrol paints and mix different colours together on a piece of flat glass until the desired shade is achieved. This is then thinned down and used to stain the vehicle.

The colour you want will depend on factors such as the vehicle's age, area of use and materials carried as well as the original paint scheme. I aim for a light to dark grey but whatever you do avoid basic black. The tendency amongst many modellers is to overdo the use of black. Few freight vehicles are painted black in NSW and those that are quickly weather a shade of grey. Nature seems to treat the basic colours harshly preferring much gentler tones, a fact which should be borne in mind in all modelling whether it be rollingstock, buildings or scenery.

Detailing

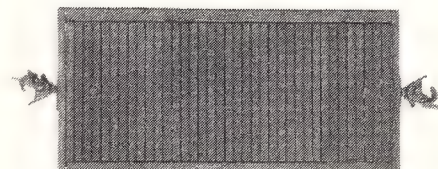
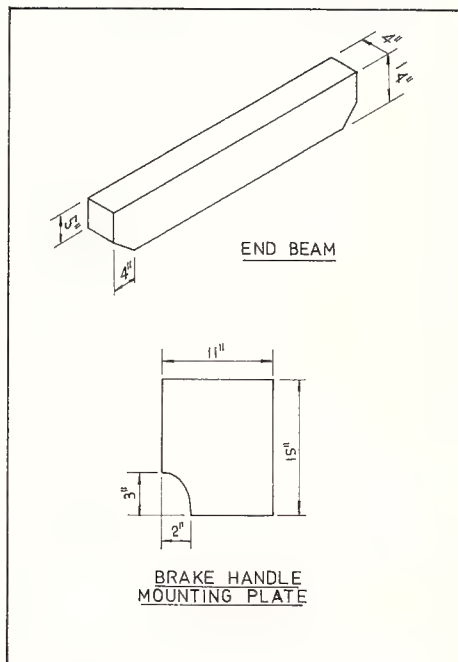
My attitude to detailing is that I only model what can be seen and as my models are expected to stand up to considerable operation I avoid if possible small brittle detailing. Experience has shown me that this sort of detail is

quickly broken. If you are building a competition model then superdetailing has its rewards but for a workhorse operating vehicle fine detail is best avoided. The time factor is also relevant here. Fine detail takes time and if you are trying to create a full rollingstock roster then this time may be better spent building more vehicles rather than superdetailing one. Don't worry, there is more than enough robust detail to build an excellent model.

Start with the corner reinforcing plates. My method involves the use of aluminium foil to represent the steel plate. Bolt head detail is impressed into the foil and this method can be used to produce any of the steel reinforcing plates found on old wood bodied vehicles.

Obtain some heavy gauge foil of the type used to wrap some medicinal products. Smooth out any wrinkles in the foil by drawing it between two fingers. Cut four pieces 2' x 4'3". This is best done with a sharp knife of the snap or blade variety with the trick being not to tear the foil as you cut.

To add the bolt detail obtain a small piece of soft sheet-wood, a pin and a piece of the Northeastern sheet-wood used for the sides of the wagon. File the point off the pin as this will be used to impress the bolt-heads into the foil. Place the foil onto the soft sheet-wood and, using a straight-edge as a guide impress a



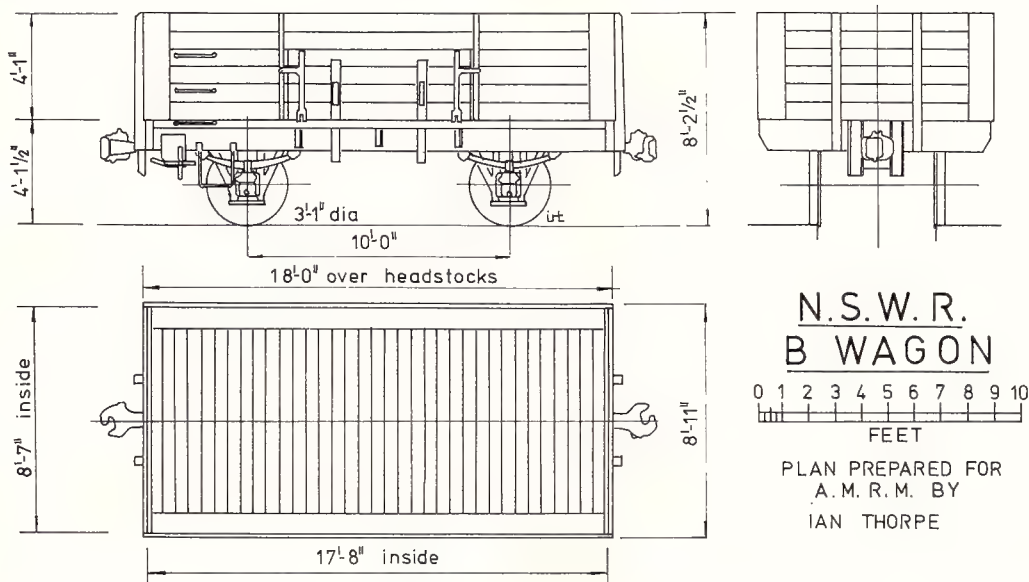
A bird's eye view of the floor. Note the longitudinal planks on the side.

$\frac{3}{32}$ " spacings. This represents 8" planks in HO and six such planks produce a side 4' high. Cut two sides 18' long (the length of the vehicle) and two end pieces 8'6" long, all six planks high.

Take the side pieces and cut out the doors. These will be glued back in place after the sides are attached to the underframe. Examine the prototype in the accompanying photographs and you will see that the doors only extend up to and including the fourth plank. The top two planks are continuous along the full side. The doors are 6'11" wide and are centred on the vehicle side.

Check that the sides and ends go together squarely on the underframe and when satisfied glue them in place. Use a small engineer's square to check for squareness and perpendicularity of the sides.

Next glue the door pieces back in place. Leave the doors slightly ajar at the top to make them stand out from the sides.



series of bolt-heads down the edge of the foil about 2" in from the edge. Place the North-eastern siding material against the edge of the foil and use the scribbings as a guide to locating the bolt-heads. There are two bolts per board and in this case near enough is good enough. A little bit of practice is needed to judge just how much pressure is required for an ideal bolt-head. After this practice you can use this method to mass produce this type of detail for a whole host of applications.

Once the bolt-heads are finished use a steel straight-edge to bend the foil down the middle with the bolt-heads on the outside of course. A little bit of superglue on the inside of the foil and you can position the corner reinforcing angles onto the wagon.

A similar procedure is followed with the strapping located beside the doors. An easy way to get the thin strap with bolt-head detail is to start with a wide piece of foil and impress a row of bolt-heads down one edge as done with the corner pieces and then slice off a thin strip with the bolt-head detail intact. This is then glued in position beside the doors as shown on the plan and photographs.

Again, a similar process is followed to produce the hinges on the doors.

The grab-irons or ladder rungs I used are produced by Northeastern but there are several suitable brands available from good hobby stores. Alternatively you could make your own from thin wire.

Use a small drill in a pin-vice to tap locating

holes and glue the irons in place. Compare the plan and photographs and you will notice the different locations of the ladders. Some vehicles had the rungs mounted directly above each other whilst others had them offset. Best thing to do is to build one of each (and send a photograph to the magazine).

Brake detail consists of the mounting plate made from shim brass. See the accompanying diagrams for measurements. These plates are glued to the sidebeams. The brake handle comes from Workshop 5 and, unfortunately is no longer available, which illustrates the point I made above about laying in a stock of these sorts of things when they are available. The alternative is to fashion them from sheet brass cut into strips and soldered or glued together to form the handle.

Connect the brake handles with a length of brass wire to represent the brake rodding. The only other underbody detail I add is a brake cylinder from Prototype.

The metal brackets attached to the sidebeams just below the doors are made from brass strip, suitably curved and glued to the sidebeams. Their function is to stop the open doors from swinging under the vehicle.

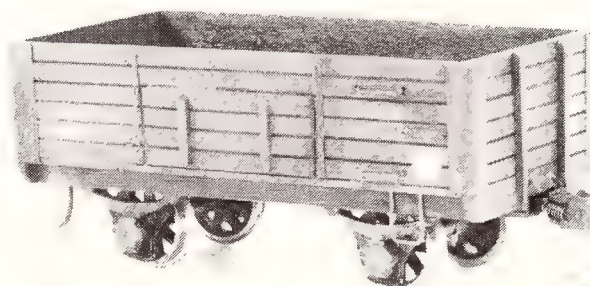
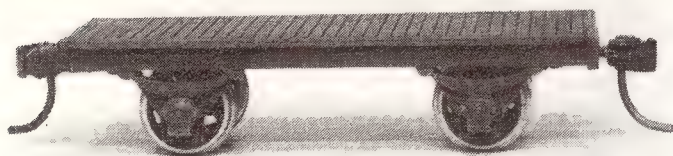
If you intend weighting the vehicle it is best done by gluing leadsheet to the bottom of the wagon. Some time ago I salvaged some old lead dampcourse and this is ideal. For best operation of Kadee couplers the vehicle should weigh 2½ ozs approximately and this additional weight will aid stability on the track as well.

Add Kadee couplers and construction of the wagon is finished. Give the aluminium foil parts a coat of etch primer and when dry weather them to match the rest of the vehicle. Final weathering and the addition of numbers (Prototype of MnJ) can now be carried out.

I have left both my vehicles empty but a load of coal could easily be made up. Cut a block of balsa wood to fit snugly inside the wagon and level with or just below the top of the sides. Round off the top of the block to represent the shape of a coal mound in the wagon. Coat the top of the block with white glue and sprinkle a coating of Locomotion coal onto the glue. When dry you have a load of coal which can be removed to give an empty vehicle if you wish. This way you won't have full wagons returning to the mine all the time.

My two wagons are amongst the most frequently mentioned at layout operating sessions and for all their simplicity and ease of construction have already given much trouble free service and are two of my favourite wagons.

Since the completion of this article, research has continued by some of the noted rolling stock historians and the Archives section of the State Rail Authority of New South Wales, and the evidence indicates that most of the author's educated guesses are correct. Acknowledgement for assistance in research to Bob Merchant, Ron Preston, Bob Gallagher, Trevor Moore, Allan Watson, John Beckhouse and the Archives section of the S.R.A.



BOND STORE No. 4

Photo and Construction by W. Budd

While looking around for a small warehouse for my son's layout, a friend gave me a photo-stat copy of a warehouse plan done to 1:80 scale.

Although slightly larger than HO (1:87), I decided to use it as it was and since I had been looking at cardboard kits, this would be a cheap way to see how those type of kits could look completed.

I glued the sides to 3 mm balsa instead of card mainly because I had balsa handy, and then I inked in the words "BOND STORE No. 4"; put bars in the windows and inked in blinds on some windows. Some windows I completely covered to simulate fully drawn blinds while others had various lengths for half-drawn blinds.

Having glued the sides together I glued on old battery separators to make a corrugated roof. (Similar roofing is available from advertisers in AMRM.) A strip of tissue paper became the ridge capping.

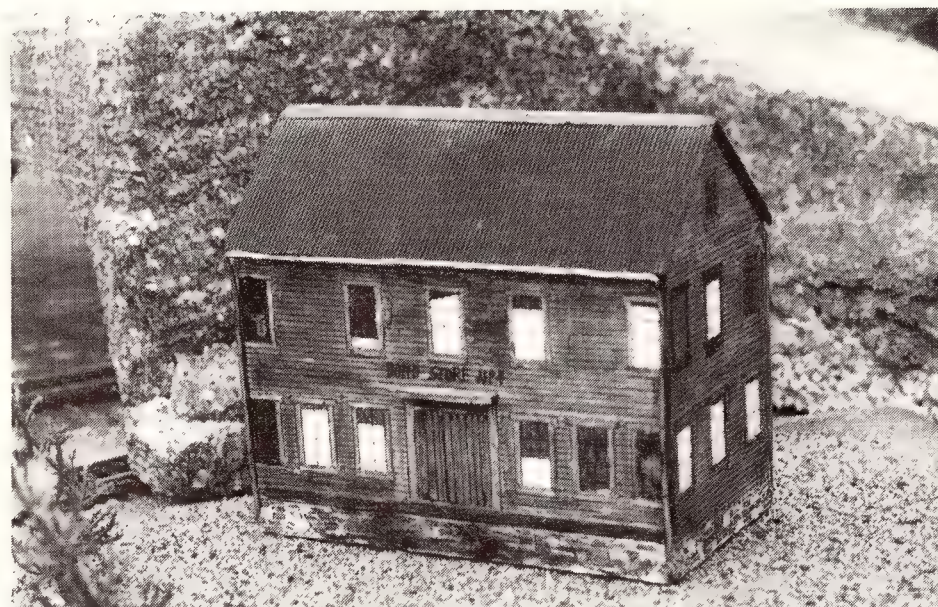
Thin resin cored solder was made into a large "U" to fit the position of a guttering and downpipe system and then glued on the front of the building.

Painting was done with "nikko" type felt/spirit colouring pens. Due to the paper the

light green colour soaked in unevenly and it gives a weatherworn look.

I realise that this type of model is roughly built and would not suit many, but the idea

might start some beginners to attempt a building and end up with the result of having a cheap model of which the owner says "Gee, that looks rip".



Scratchbuilding Passenger Cars in N-Scale

by Roger Sheppard

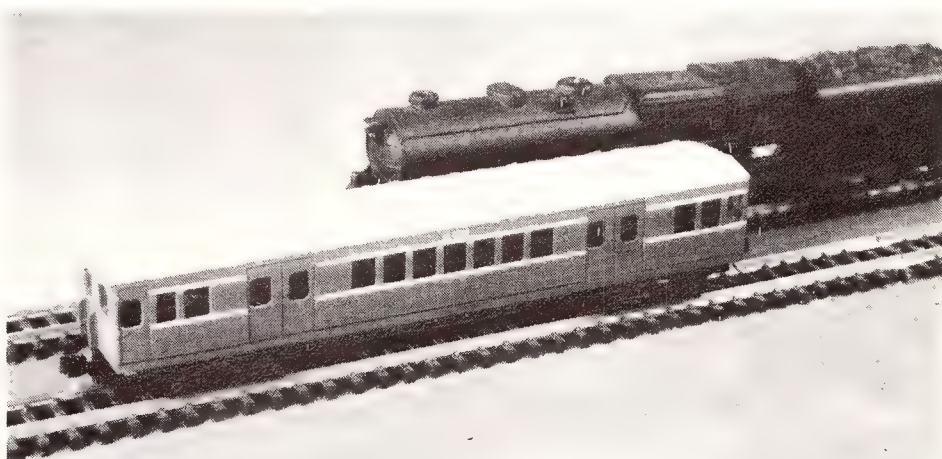
Introduction

Readers of this magazine may remember Terry Clark's excellent series ("Australia 'N'") for modellers of Australian prototype in N-scale. He described scratchbuilding techniques and conversions of commercial models to produce goods rolling stock and diesel locomotives. His final article described the conversion of European Tee cars into a NSW RUB passenger car set.

This left a gap in the passenger car scene. Since that time, several passenger cars have become available in N-scale, including Friedmont's RUB set, MRC's FO cars of NSW, and Weico's AS class cars of VR. Before these had become available, I had decided I wanted to have some passenger cars for my NSW layout. Apart from Terry's Tee cars, there seemed to be few other commercial models that lent themselves readily to conversion — it seemed that scratchbuilding my own was the only answer. Spurred on by Terry's example that it can be done (at least with goods vehicles), I began.

As a relative newcomer to the hobby, and certainly to scratchbuilding, I turned to Kalmbach books and other sources like AMRM for enlightenment. But while these were invaluable in teaching me the basics of working with styrene (which, I had decided, was the best material to work with), they largely fell short of any definitive techniques for building an actual model of a passenger car, particularly in N-scale. 'It can be done', I repeated to myself — thus convinced, I pressed on. And to my satisfaction and delight, I found that it could indeed be done, with very acceptable results and not too many traumas along the way. There's nothing quite like actually setting to and doing something to allay one's fears of not being able to do it.

I will describe in some detail later, the construction of a specific passenger car that I have built. But, like Terry, I emphasize that it is the method and the techniques used that are important — not the building of the particular car



Finished model of a 1927 Sydney suburban car, 3827 (the Sentinel model) standing in the background.

that I happen to have chosen. The techniques can be applied to the building of almost any passenger car of your choice, and in scales other than N. So to start, I will first describe some of the important techniques I use, before incorporating them into the building of an actual model.

Some Techniques

N-scale does have its particular challenges (difficulties, some people would call them), because of its small size. The most critical aspects relate to accuracy in measuring and neatness in cutting. In passenger cars, deficiencies here show up most obviously in windows and doorways that are not quite square, evenly-spaced or aligned. The overall effect can give the finished model a coarse, amateurish appearance. The techniques to be described here are designed to largely overcome these deficiencies and produce a good looking model.

I will not attempt to describe the more general techniques of working with styrene which are well covered in other books and articles; in particular, I would recommend Ian Thorpe's

article in the July/August 1980 AMRM, "Modeling With Styrene", and Kalmbach's book "Building Plastic Railroad Models".

One of the most important requirements is worth emphasizing at the outset, however, and that is — patience. Take the time and care to carry out each step using recommended techniques, and you can't fail to produce an acceptable model.

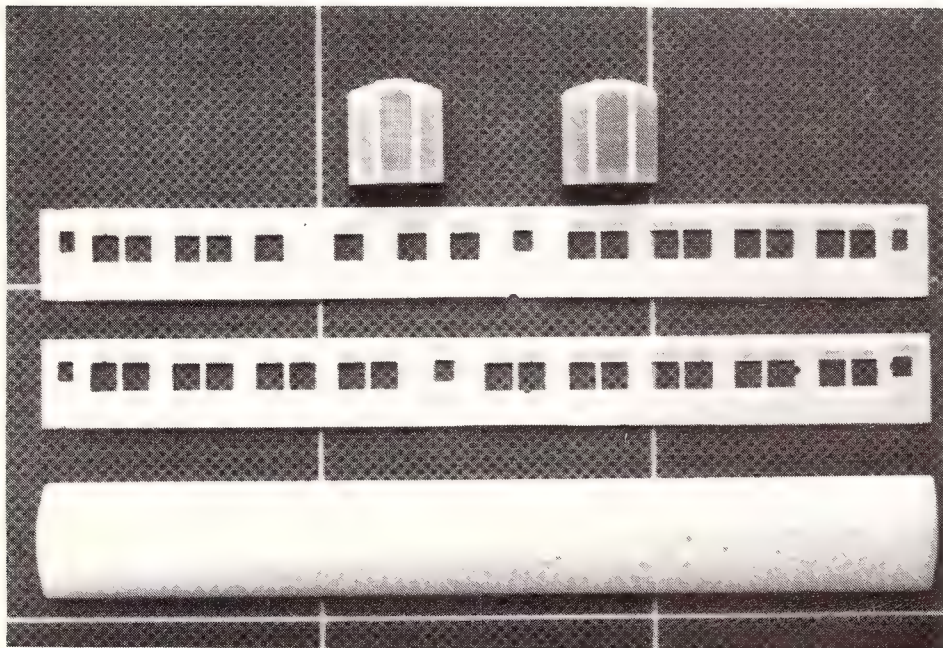
Marking Out

My method basically involves making the 2 sides, 2 ends and the roof as 5 separate pieces, using styrene as the construction medium. These parts must first be drawn or marked out on a sheet of styrene. For N-scale, I suggest that .020" styrene be used — this is generally strong enough to give reasonable rigidity, but thin enough to enable accurate and clean cuts to be made. I effectively make my car sides .040" thick by welding together two matching sides, each with slight differences in cut-out areas in order to create recessed doorways or window sills, and to give the model added strength. More detail of this will be given later when the actual construction of a car is described.

When measuring and drawing the parts on styrene, there are several techniques that will improve the accuracy and alignment of windows and doorways. I will use a typical car side to illustrate these.

Firstly, draw the overall outline of the car side. I find that a steel rule and a sharp lead pencil (a Pentel or similar style mechanical pencil that accepts thin lead inserts is excellent) are best for this. Errors are easily erased, and the fine line facilitates greater accuracy in later cutting. The steel rule helps ensure that your straight lines are true. Don't assume that your sheet of styrene has perfectly straight edges and square corners. If necessary, cut one side of the sheet first to a straight edge, and then preferably use a steel square to ensure your verticals are true.

The next step is to draw in all the vertical lines that will be required to delineate the door and window areas. All measurements for these should be taken and made from a base origin, e.g. the lefthand end of the car side. Do not make point-to-point measurements, otherwise an error at one point will extend through to all subsequent measurements. By always measuring from a common or base origin point, any error will at least affect only that one measurement. This principle is illustrated in Fig. 1.



Moulds used to produce these polyester castings for a NSW 'ACS' passenger car were made from original parts built using techniques described in this article. Serious problems with air bubbles are evident in these castings (mostly since solved with vacuum casting).

If you are using a steel square, then theoretically only one measurement will need to be marked to define the position of each vertical line — but making two will help to avoid any possibility of an error. If you are not using a steel square, then at least two, and preferably three, measurements will need to be marked to ensure parallel and vertical lines. In making the measurements, do not confine yourself to working within the relatively small height of the car outline. Make the second measured point at least several inches above the first, well outside the outline. This will minimise the effect of any error, as illustrated in Fig. 2. This system has another advantage — after the first side has been drawn and finally cut out of the sheet, the extended vertical lines can be reused for drawing a second (third etc) car side. This saves you repeating all that work, and results in parts of more consistent and therefore matching size.

When all vertical lines have been drawn, use similar techniques to draw in all the horizontal lines delineating the tops and bottoms of the rows of windows and doorways. You will now have a criss-cross pattern of lines — shade in those parts that represent window and door areas to be removed by cutting (see Photo 1). A valuable technique in producing windows that are evenly spaced, and square and aligned, is to remove the total area of a row of adjacent windows as one piece, and then later to use strip styrene to insert pillars to create the individual windows.

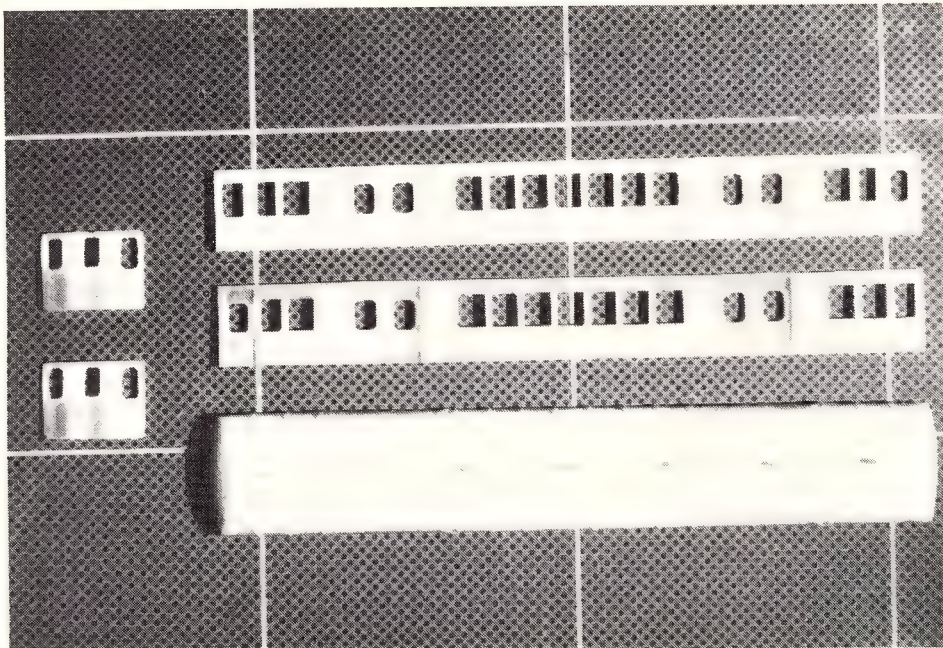
Cutting

Having marked out the areas to be removed, cutting can begin. In addition to again referring you to the techniques for cutting styrene that you will find in other articles, such as those previously mentioned, I would like to describe some techniques I use which will help ensure that the areas when removed leave clean, square-cornered openings.

The 'scoring and breaking' technique cannot be used when removing the door and window areas, so you will need to make cuts which go through the full depth of the styrene (at least on 3 sides of the opening). When a cut is made in styrene, a small raised ridge is usually left on the edge of the cut which, in N-scale particularly, can be very noticeable. To avoid having this show in the finished model, or having to file it smooth (which generally doesn't leave as neat an edge), I take advantage of the very clean cut that results on the underneath side of the sheet. I do this by originally marking out the car back to front, i.e. left to right transposed. Effectively, I draw the 'inside' view of the piece I am making, so that the 'underneath' side with its clean cuts will eventually become the outside of the finished model. This method has an added advantage — when cutting, you can afford to slightly overrun the defined cut-out area with each stroke of the knife. The resulting overrun nicks will not normally extend through to the other side of the styrene and so will never be seen. The result is a cleaner cut and neater corners, because you are using a smoother cutting stroke when you don't have to worry about trying to stop cutting at the exact corner of the area to be removed.

If a cut does not quite completely extend through the styrene at a corner, gentle pressure (a la 'score and break' technique) can often be used to good effect. Alternatively, a gentle cut with the knife on the 'good' side through the final thin layer of styrene just at the corner can be used.

There are two other problems which commonly occur when cutting styrene. Firstly, the steel rule can slip and move slightly, no matter how hard you concentrate to prevent this (it seems the harder you concentrate, the more likely it is to slip). This happens because it is normal to push against the rule with the knife to ensure that you keep the cut from wander-



Castings for the Sydney suburban cars. The 'masters' for these castings were produced using the techniques described in this article.

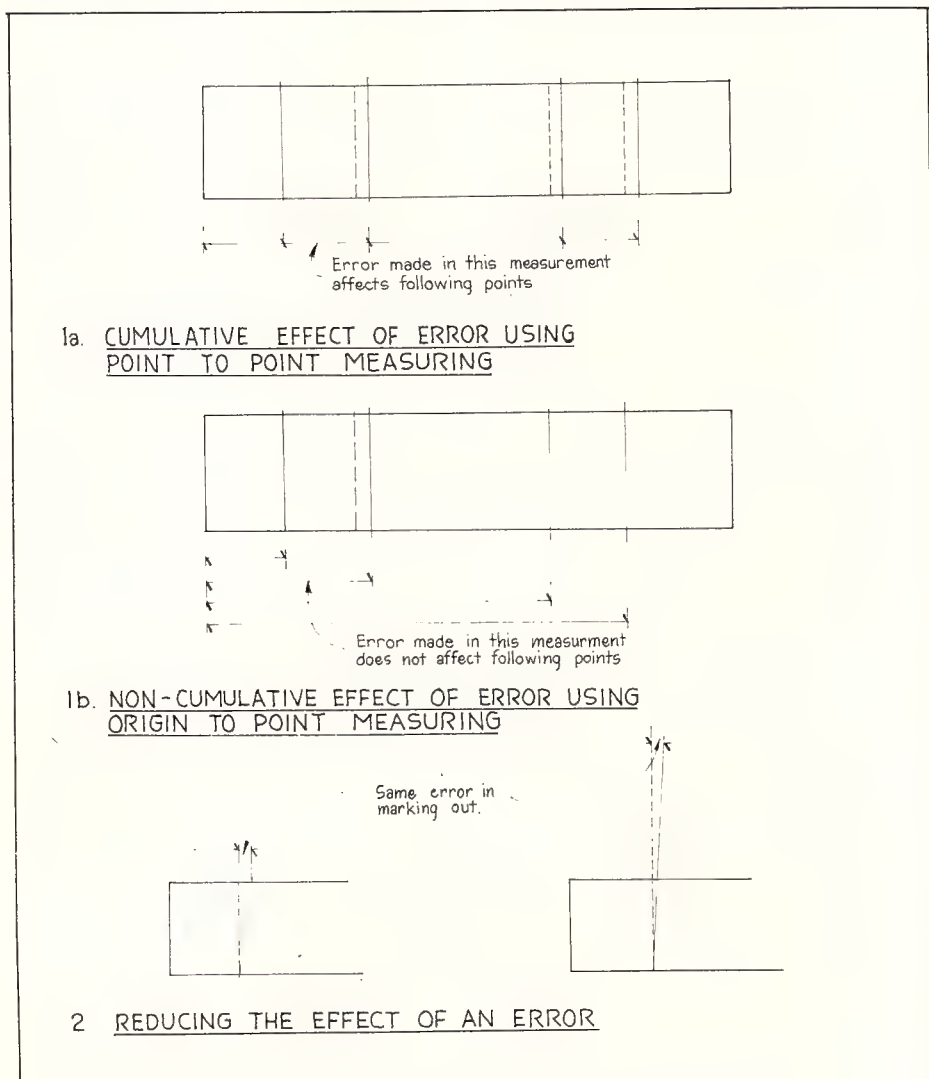
ing away from its designated path.

Secondly, while you are concentrating on this aspect, it is easy to forget to keep the knife blade vertical. If the blade is not held vertical, then by the time the cut gets through to the other side of the styrene (the eventual outside face of the car, remember), it can be sufficiently off-course to negate all your careful measuring and drawing.

I have overcome both of the above problems

by clamping both the steel rule and the styrene sheet firmly to the workbench with small G-clamps, after I carefully align the rule to the line to be cut (see Photo 2). This not only leaves both hands free to guide the knife, but allows your concentration to focus more fully on keeping the blade vertical.

Finally, I would like to emphasize the importance of using a sharp knife, and of using a number of successive strokes, each with only



gentle pressure, when making any cuts into styrene.

Construction of Sydney Suburban Steel Cars

Having lived my youth in Sydney, my greatest contact with trains was from travel on the Sydney suburban network — so I decided to start my scratchbuilding by modelling these. I chose the 1927 style single deck steel cars for my first effort, since these are the most straightforward in outline and so the simplest to build. I built the sides, ends and roof separately, and from these I made Silastic rubber moulds to enable me to build a number of cars. But there is no reason why running models could not be built directly from styrene.

The material you will need:

- .010" sheet styrene for detail parts
- .020" sheet styrene for the sides
- .060" sheet styrene for roof, floor and ends
- .040" x .030" strip styrene for window pillars

1/64" wide masking tape for side stripes (or use stripe transfers) and roof bands.

MEK or other suitable solvent or adhesive suitable bogies

The tools you will need:

- Steel rule
- Sharp pencil
- Sharp hobby knife
- Steel square (optional)
- Needle files
- 2 G-clamps (small)

You will also need a suitable plan from which to work. I found the dimensioned drawings available from the Archives section of the SRA were acceptable. Dimensions on these are shown in millimetres, so with a quick division by 160, you can mark off measurements onto the styrene with a good metric rule. These plans show most of the dimensions you will need, though some will have to be calculated by scaling parts of these drawings.

Sides

Since the model will most often be seen from the side rather than from the end, I chose to make the sides to the full length of the car. The ends, to be made next, are then made slightly narrower than the car width (by the thickness of the 2 sides), so they buttfit between the sides in the finished model (see Fig. 3).

The first step in making the side, is to draw its outline on the sheet styrene, using the techniques described earlier in this article. Remember, too, to draw the outline with left-to-right transposed, i.e. as a mirror image of the final side, since the underneath side of the styrene will eventually form the outside face of the car.

Pay particular attention to the positioning of the driver's and guard's compartment doors. Trailer cars contain a guard's compartment, and its doorways will need to be at opposite ends of the two sides so they will match up at the one end in the finished model. The power car has only a driver's compartment door situated on the left hand side — so it will need to be positioned at the right-hand end of that side when you mark it out, so that it will finish up at the leading end of the model when made.

For added strength, and also to give the cars a more realistic 3-dimensional appearance by incorporating recessed doors, I built each side up from 2 almost identical side pieces, sandwiched together. I removed the window areas from both pieces, but removed doorway areas from only one piece; when the latter is sandwiched over the other piece, recessed doorways are created (see Photos 3, 4 and 5). By reducing the height of the window opening in the back piece, you can also produce recessed window sashes. You might also add variety to your cars by removing some of the door areas on the back piece to create open doorways — but this requires care due to the

lack of support strength left in the car side at the doorway, and this operation is best left until after the 2 pieces have been sandwiched together.

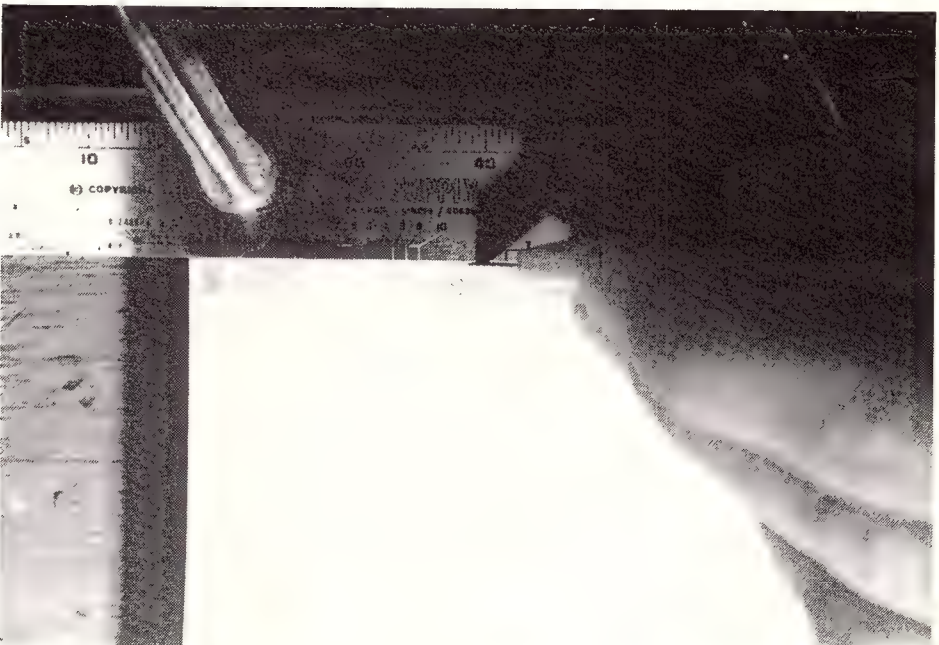
After marking out the side, carefully remove the window and door areas using the techniques previously described. The characteristically rounded windows in the doorways are a little more difficult and fiddly. I found it practical to initially cut these windows to the shape shown in Fig. 4, and then to carefully round the corners with a suitable small cylindrical file.

When window and door areas have been removed, cut the sides away from the styrene

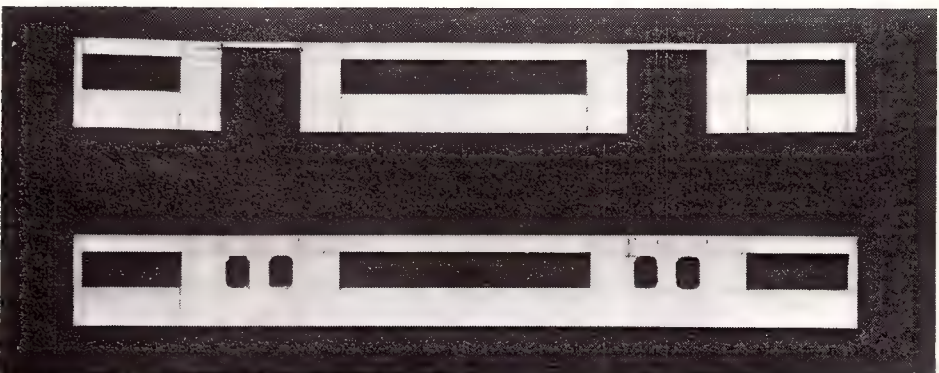
sheet. Care is required with the piece which has the door areas removed, since it is held together by only a very narrow strip above the doorways. Carefully turn the two pieces over so that their 'correct' surfaces are now uppermost, and sandwich the two pieces together — some careful trimming up with a file may be necessary, depending on the accuracy of your marking out and cutting. When you are happy, hold or preferably clamp them gently together and carefully apply MEK or other suitable solvent along the joint around the outside perimeter of the car, and in the window and door openings, to weld the two pieces together.



Car side marked out, with areas to be removed shown shaded.



Styrene clamped in place for cutting



Two matched side pieces (to make one car side) shown working-side face up.

Note that it is important to use equal thickness styrene sheet for the two pieces of this sandwich, otherwise the side will warp alarmingly after welding and drying.

The next step, when the side is thoroughly dry, is to add the separating pillars in the window openings to create the individual windows. Since the sides are .040" thick (2 x .020"), .040" x .030" strip styrene is ideal for these pillars. Rather than try and measure and then cut these to the correct height, I found it best to custom fit them in situ by placing the free end of the strip against the bottom sill, and nicking a mark at the correct height. I then removed and cut the pillar at this point using a firm downward pressure with the hobby knife. This gave a good, clean cut. The fit should be snug, but need not be absolutely precise — a

slight gap will emphasize that it is, after all, a pillar. Besides, when you carefully MEK these into position, the solvent will help to fill any slight gaps.

Care needs to be taken to position the pillars symmetrically, remembering however that the windows at the far end of each car are slightly narrower than the others. Using careful arithmetic, mark the positions of each pillar and check that these 'look' correct before welding them into place.

Some other final touches will complete the side. Scribe a line down the centre of the doorways to represent the join where the doors meet in the middle. This is best left until after the pieces are sandwiched together, to make sure it is visually centred in the doorway. Now too is the time to remove some door areas to

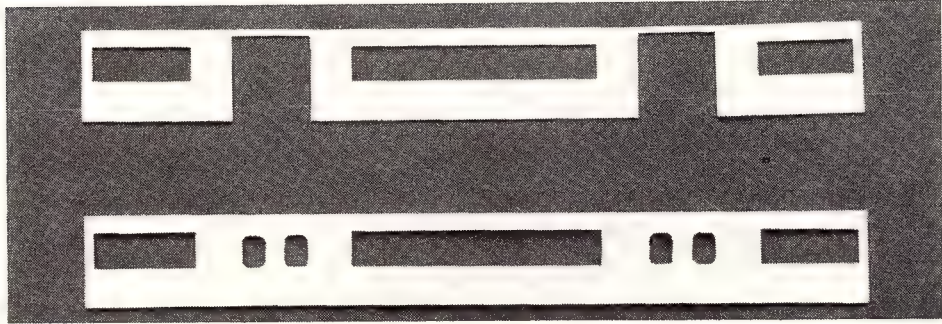
give open doorway effects. The stripes above and below the window line are an important characteristic of these cars, whether or not you intend to pick them out in buff colour as they were in years past. I used 1/64" masking tape ('C-Thru Graphics Tape') for this purpose, which gives the raised 3-dimensional effect. The adhesion of the tape was sufficient in my case (since I was making a rubber mould from which to produce castings), but would not be sufficient for a permanent model without the assistance of additional adhesive. Alternatively, if you want the buff stripes, suitable water-glide stripe transfers are available in the AMRI range for N-scale (sheet no. 091).

Ends

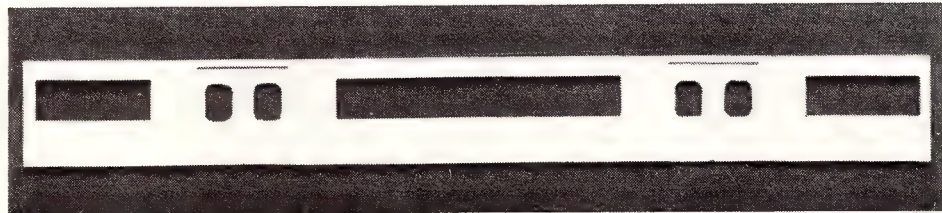
For the ends, I used .060" styrene; this thickness is necessary since the face must be filed down on each side of the doorway to give the correct sloping profile (see Fig. 5). When marking out the side pieces on the styrene, remember that their width will need to be less than that of the final car, since each end will be fitted between the sides whose thickness will contribute to the final width (see Fig. 3).

Three windows need to be marked out. Removing the window areas will be more difficult than it was with the sides because of the thickness of the styrene, and because they are each individual windows with rounded corners. For these, I drilled a series of small holes around the perimeter of each window, then finished off with careful use of the hobby knife followed finally by needle files (again, working from the 'back' side).

Once the windows have been removed, the ends can be cut away from the styrene sheet. The face on each side of the doorway should now be carefully sanded back to the correct profile (Fig. 5). This requires care to ensure a vertical meeting line is achieved where the sloping and flat areas meet. Scribe lines to delineate the actual doorway.



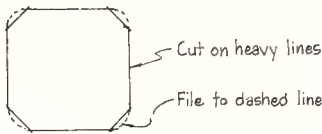
'Reverse' side of the pieces shown in Photo 3. showing cleaner, sharper edges of cut-out areas.



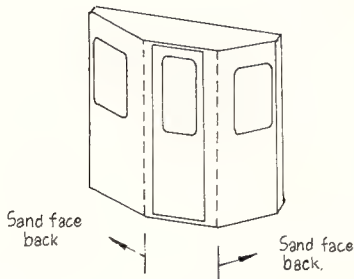
Two side pieces welded together to form one side. Note recessed doorways.



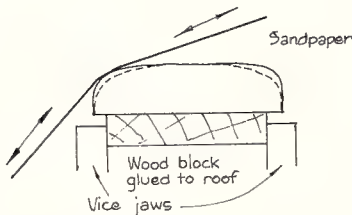
3 PLAN VIEW OF CAR SHOWING BASIC CONSTRUCTION



4 METHOD OF CUTTING WINDOWS WITH ROUNDED CORNERS



5 PROFILE OF CAR END FACE



6 TECHNIQUE FOR SANDING ROOF TO CORRECT PROFILE



7 PLAN VIEW OF ROOF SHOWING END SHAPE

Using .010" styrene, cut to shape the 2 door guards (what do you call these?) and carefully weld these into position on either side of the lower door. Suitable small pieces of styrene can also be welded onto the face to represent the 4 route indication-come-tail-lights. If you're really game, you might consider drilling these for fibre optic lights, as I hope to do one day!

Roof

The roof is quite important, since it will probably be seen in more detail than any other part of the car. How 'correct' a car looks will often depend on the roof, yet it is difficult to measure and work to precise measurements to create the correct profile. In the end, it will be more a matter of judgement and observation (sometimes called 'trial and error') as you work to achieve the correct contours.

Begin by cutting 3 identical pieces of .060" styrene, each to the outside dimensions of the car or slightly larger. Weld these together to make a solid rectangular block that is .180" thick. Leave it for a day or two to dry thoroughly.

Basically, creating the roof involves merely shaping this to the correct contour. Though this is slow work, it is not all that difficult. My first attempt resulted in a correct looking roof, so don't baulk at the idea. I used a large file to do the initial bulk shaping, finishing off with smaller files, followed by coarse sandpaper and, finally, fine grade wet and dry.

To work on the roof, I glued it to a small block of wood whose width was a little less than that of the roof, but of about the same length, using PVA glue (readily removed later). I then clamped this support in a small vice. When sanding, use a large piece of sandpaper held firmly at each end, and work it across the roof section with a backwards and forwards motion to achieve smooth curves in the desired locations (see Fig. 6).

The ends of the roof must not only be shaped to the correct curve, but must also match the end profile of the car (see Fig. 7).

The roof bands and the guttering over the doorways on these cars are also very characteristic and worth incorporating. As with the side stripes, I again used 1/64" wide masking tape to good effect. The guttering becomes a bit fiddly, but is worth the extra effort. Make sure that the roof bands are evenly spaced.

Finally, add the roof ventilators. I used a section of suitably sized cylindrical plastic sprue, salvaged from a plastic model kit, and cut this into suitable width wafers to form the ventilators. I attached them with MEK, and then washed them with a MEK loaded brush (being careful not to mar the roof) to round the flat faces to a slightly more realistic shape.

Construction (Getting It All Together)

When the sides, roof and ends are ready, actual construction can begin. If you wish to paint the inside walls of the car, do it now before putting the car together. Original livery was light tan to the lower window sill, and dark tan below that, on the inside. These colours were later changed to light and dark shades of green.

Begin construction by joining the two ends to one side, sitting the parts on a flat surface to ensure proper alignment (but being careful not to also glue the parts to that surface!). Remember, too, that the ends butt inside the car side (see Fig. 3). When this has set firm, weld the other side on, to complete the open-box construction of the body proper. The outside corners of the car should be sanded to a smooth curve.

If you wish, the inside partitions which separate the sitting compartments from the doorways can be made from .020" styrene and inserted now — these are straightforward, unless you intend to incorporate the doorway and windows into these for added realism. These



Sydney suburban car, in 'N' scale.

pieces will also serve as braces to improve the rigidity of the car.

Next, you may need to carefully file or sand the top of this box to ensure the roof will sit flush on top. I did not glue the roof to the body — instead, I attached a rectangle of .010" styrene to the underside of the roof, whose dimensions were equal to the inside opening of the body box, so that the roof merely sits on top with this piece providing a snug fit to keep the roof properly in place. This was done so that I can add more interior detail or lighting effects at some time in the future.

The roof and body should now be painted before attaching to a chassis. Most readers will be familiar with the colour schemes used on these cars — either russet red (original livery had the side stripes picked out in buff), or the later blue and white styling which is not so straightforward to paint. The roof should be grey, or rust-tan, in colour — but typically will need to be heavily weathered to the usual dirty, grimy appearance.

The simplest chassis for a model which will not be motored is a rectangular piece of .060" styrene, cut to a size slightly smaller than the car dimensions and painted black, and fitted with suitable bogies. There is not a great deal of choice here — I used Kadee 4-wheel passenger bogies, since I prefer the Kadee coupling system. These are not the correct style, and wheel spacing is too big, but they look OK to my uncritical eye. The body is then simply glued to this chassis.

Underfloor detail should be added — it will differ, of course, for power and trailer cars. I found some excellent metal underbody detail, very similar to that on Sydney's power cars, in a Japanese 2-car trailer set which I picked up at Berg's one day — an expensive way of getting underbody detail unless I can find a use for the cars. I can't give you much in the way of a description of this set, except that it was contained on a card covered with lots of writing, all in Japanese — apart from a 'GM' trademark, and the words "PAIR KIT".

For a motored model, I used the chassis of the Roco No. 2160 2-car Austrian electric set.

This consists of a motor-driven car and a trailer car; it is geared for relatively slow (and in my books, more realistic) speeds, has a five-pole motor and runs superbly. The width and height are nigh perfect for the Sydney suburban cars, but while slightly too long, it is easily shortened to the correct length. The bogie-to-bogie distance is almost spot-on, but the wheelbase of 10 ft is 3 ft too long (it would be better suited for the later style of single deck steel cars which had a wheelbase of 9 ft).

When fitting the scratchbuilt body to the Roco chassis, recesses will need to be made in the roof to accommodate some fittings on the top of this chassis. It has 2 working pantographs, one of which can readily be incorporated into the model — a screw on the underside of the roof, which acts as the electrical contact, holds the pantograph in place.

The trailer car of the Roco set could also be used as a chassis for a Sydney trailer car or dummy power car. It has the advantage of being fitted with electrical pickups on the wheels for headlights/tailights, if you wish to light your model.

Conclusion

This completes the description of the Sydney suburban car. It is intended as a guide, and by no means a textbook, to passenger car construction. You may have better ideas, or can suggest improvements on the way I have gone about it. If so, please share them with us through AMRM. Like Tony Scott ("VR Diesels in N-Scale" in Sept/Oct and Nov/Dec 1980 AMRM), I was inspired by Terry Clark's original articles on conversions and scratchbuilding in N-scale, and I was delighted when I realised that he was right — it can be done! In N-scale, scratchbuilding is still very much a necessity when modelling local prototype — and anyway, it's a much more rewarding and authentic involvement in this hobby of modelling than buying off-the-shelf models. So, 'ave a go mate!

This article, while being aimed at the 'N' scale modeller, covers techniques that are applicable to all scales.

LIMA 'ELX' OPEN WAGON

Adding detail, decals, Kadee couplers and bogies to the Lima V.R. and S.A.R. 'ELX' open wagon . . . as described by Bob Gallagher.

The addition of the Lima 'ELX' (in both liveries) onto the Australian market was welcomed by those modellers modelling the modern era. . . . Now a rather accurate model is available, off the shelf, in ready to run form, for a reasonable price. There were a few deficiencies that must be expected with mass produced items that can be corrected and which does enhance the models greatly.

The accuracy of the body of the model cannot be challenged, but the fitment of standard Lima bogies makes the wagon sit too high, as well as the bogies being the wrong style for fast working. The changing of the bogies, to a closer to prototype profile, and the application of small flange wheels not only reduces the height of the wagon but makes it easier to add Kadee couplers.

As sold the South Australian version of the ELX did not have the 'SAR' emblem plate or decals, and these are easy additions to the Lima model.

The following notes will describe the alterations that produce wagons much more pleasing to the eye.

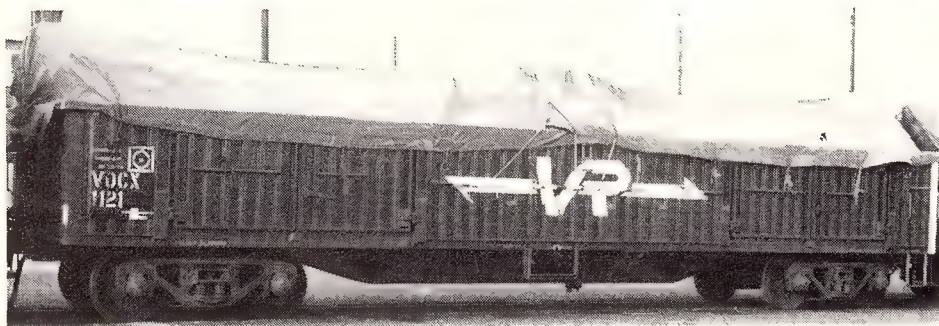
Fitting Bogies

The Lima bogies must first be removed, and this is accomplished by unclipping them from the body bolster. A little force is needed and a small screwdriver can be of help. Remove the underframe section by removing the screw holding the two parts together. Using 1.5 mm thick styrene (or laminate thinner sheets to the required thickness) form two sections into 13 mm circles and glue each one onto the body bolsters. Fill the inside of the body bolster with plastic putty (Panel Metal) and leave to cure. The next step is to drill and tap a screw hole in the centre of the body bolster to fit 7 BA screws (7 BA round head screws hold the Roundhouse bogie in place without any side movement.) Add Roundhouse Bettendorf bogies fitted with Kadee 36" wheels.

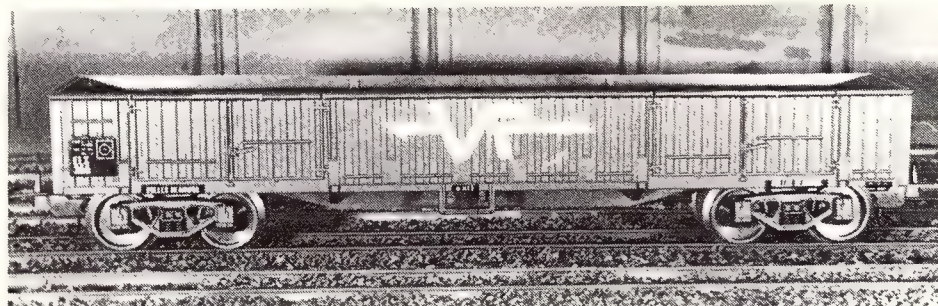
Put the wagon back together, after making sure the 7 BA screw does not protrude through the underframe section. Check that the wagon, with both bogies fitted, sits 8' 6" (30.5 mm) above rail height, adjusting the height with fibre washers.

Fitting Kadee Couplers

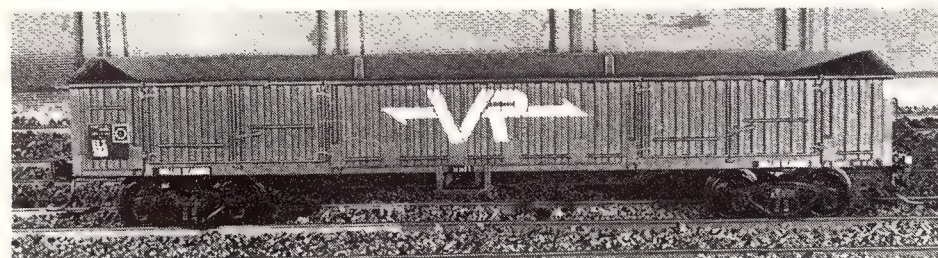
The coupler ideal for this model is the Kadee No.5 type, which requires a flat surface 29/64" (11.5 mm) above rail height. On the 'ELX' this required surface can be easily accomplished (after attachment of Roundhouse bogies) by gluing packing onto the floor and filing away part of the end to allow the coupler to sit flat. The coupler can then be screwed (8 or 10 BA) or glued into position, making sure that if glue is used it does not penetrate inside the coupler or between the body parts.



VOCX (ELX) 1121 as used by VicRail. Peter Vincent photograph.



As supplied the LIMA V.R. 'ELX'. Graham Ball photo.



As modified V.R. 'ELX' by the author. Graham Ball photo.

Shunters Steps and Handrails

Shunters steps and handrails can now be fitted and care should be taken to choose the correct style for the correct wagon. V.R. shunters steps vary from those used on SAR/ANR gear. Use photographic evidence for the correct style (V.R. 'ELX' was covered in detail in the September/October 1981 and November/December 1981 AMRM). Handrails can be bent from 0.013" brass wire from Walthers or Detail Associates and shunters steps from brass section or brass wire (0.020" by K & S) and styrene (0.010") or by using those supplied in etched brass by Broad Gauge Models.

SAR/ANR Logo plate

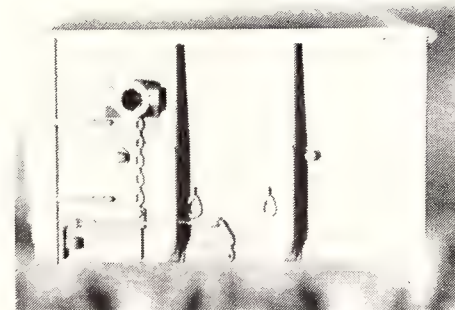
The Lima SAR 'ELX' lacks the panel upon which the SAR piping shrike or the ANR logo is applied. This is a simple addition of a section of 0.010" styrene 11.2 mm x 9 mm, which is glued in place with Methol Ethyl Keytone (MEK). Similarly, the bogie exchange 'X' plate can be glued in place after being formed from 0.010" styrene sheet (5 mm x 5 mm).

Brake Lever

Another choice the modeller has is the style of brake lever, for both the miners hand wheel and the ratchet style are used on the prototype. I chose to alter the SAR model to a ratchet style, cutting off the wheel boss from the wagon end and fabricating a ratchet handle from styrene and wire.

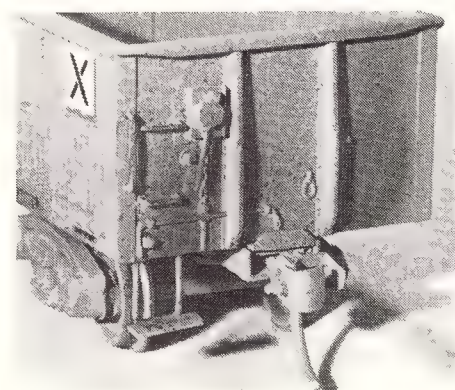
Painting

The decision to repaint the already decalced wagon or just touch up the model will depend upon the courage of the individual modeller,



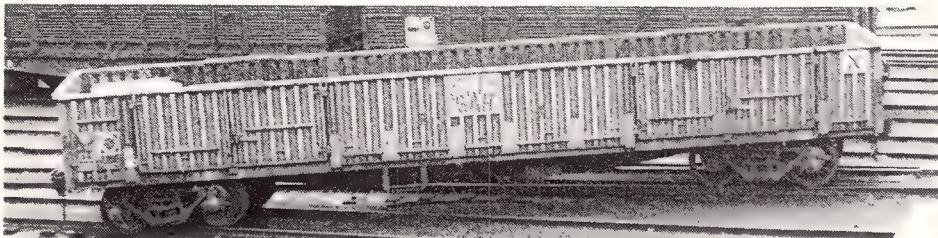
Before and After. The above photo shows the end of the ELX after removal of the brake wheel but before removal of the 'boss'.

The photo below illustrates the end of the completed model as modified with a ratchet brake lever. Graham Ball photos.

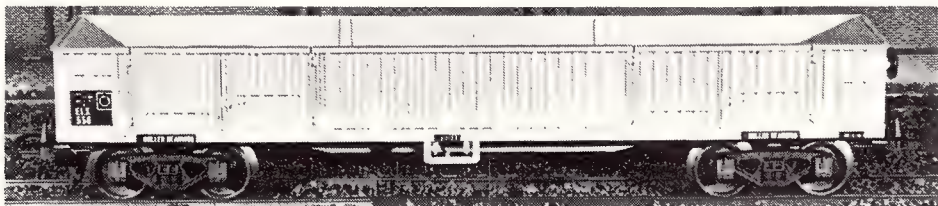




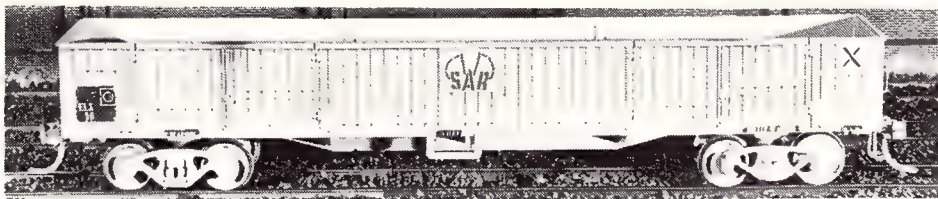
SAR 'ELX 532' as photographed by Phil Curnow. Note the bogie exchange 'X' on the end and sides of the wagon.



SAR 'ELX' in a spot of bother at Darling Harbour goods sidings. Note the mixture of spoked and disc wheels under the wagon. Photo by Bob Gallagher.



As supplied the LIMA SAR 'ELX'. Graham Ball photo.



As modified SAR 'ELX' by the author. Graham Ball photo.



Another modified 'ELX', decalced for A.N.R. by Phil Collins. Photo by Graham Ball.

but regardless there is a secret or two in the masking of the decal work.

On the SAR model I chose to repaint the model, while still retaining the Lima decal work, and used masking tape with disastrous results; the masking tape lifting some of the decals off the model. It was found wise to use MASKOL or similar liquid masking material for this does not attack the decal. A mixture of Floquil Reefer Grey and Reefer White was mixed 2:1 and air brushed onto the model, in two or three coats. The first coat was not heavily mixed with Dio-sol so Barrier was not found necessary to prevent crazing.

I did not paint the VR model, choosing only to weather the model after painting some of the alterations with primer red.

Decals

Decals from the Model Centre 'EMCE' ELX kit were used to detail the SAR model, but now that Broad Gauge Bodies has such a large range of SAR decals it is not necessary to search for the EMCE type. The SAR piping

shrike should be the red style.

Conclusion

This project was accomplished on two wagons over a couple of evenings, the painting taking a little time, spread over a few days. Unfortunately, while modifying the models, the correct Roundhouse bogies were out of stock at the local hobby shop and another (non roller bearing) style was used as a stop gap. Ultimately this item was forgotten and the models completed and put into service with (still) incorrect bogies underneath. To help detail the underfloor section a cylinder was glued in place, but detailing this is another exercise.

Acknowledgments

This article would not have been possible without the support of Peter Vincent, Phil Jeffery, Phil Curnow, Allan Brown, Phil Collins and Graham Ball. Readers are advised to read W.M. Secker's method of changing bogies on the ELX, which should be somewhere within the confines of this article.

NEW BOGIES AND COUPLERS FOR THE LIMA 'ELX'

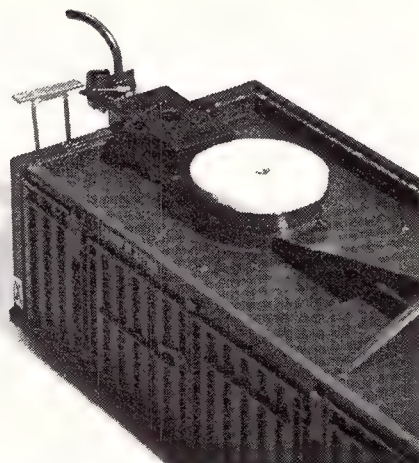
As far as I am aware most V.R. wagon floors are somewhere between 3'10" and 4' above rail level, and as the floor of the Lima 'ELX' is 5' above rail level I set out to correct the problem and fit Kadee's.

On the model this can easily and, above all, cheaply be rectified. First I fitted No. 5 Kadee couplers. Cut a suitably sized piece of .75 mm (30 thou) styrene and glue it to the underbody. Then carefully file out the body to the depth of the styrene and wide enough to accommodate the No. 5 Kadee. Glue the coupler into place. This brings the knuckle centre roughly in line with the bottom of the body, where it should be. Refitting the bogies proves the wagon sits too high above the rails.

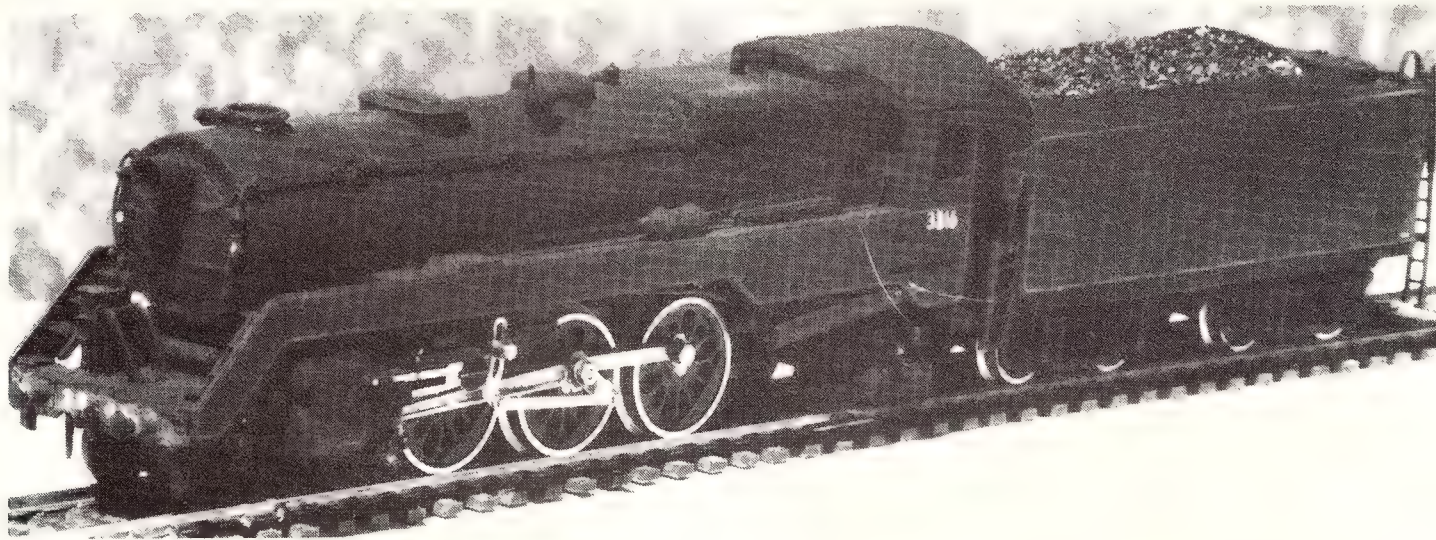
Now purchase a set of LIMA bogie frames as used under their container flat wagons. They are available as spares for 60 cents each. Chop off the LIMA couplers. On the body remove the two little ridges that stop the original bogie from rotating through 180°; they prevent the new bogie from clipping in fully.

Put the wheels into the new bogie and clip the bogies into the body. The body as well as the coupler height are now much more correct. In order to improve the bulky appearance of the wheels their flanges should be reduced to a more sensible diameter. If you do not have access to a lathe the following can be done. Rotate the insulated wheel and bring it close to the all metal wheel. Put the axle into the chuck of an electric drill. Spin the wheels and carefully file down the flanges to your requirements. I reduced mine to 13.1 mm diameter which gives a flange depth of 0.85 mm. Then rotate the insulated wheel back again to obtain the 14.5 mm back to back measurement. Lastly, the fitting of shunters steps also enhances the models appearance.

W.M. Secker



The underfloor section of the ELX. Note the disc of styrene on the body bolster and the pad of styrene under the coupler.



Left hand side of C38

REBUILD THE LIMA C38

Garry Kahler describes how to correct the detail on the popular C38 locomotive, as well as build a new tender.

Having purchased a Lima N.S.W. C38 I set out to rectify some of the faults. To begin with the power reverse detail and all the handrail supports were stripped off and the air pump and tender top (body) were removed. New handrail supports were purchased and fitted in the correct positions. Fine spring wire was then threaded through the supports, the wire being shaped where necessary. New throttle levers were made and glued between the handrails on the left hand side of the boiler.

New marker lamps, headlight, generator, trailing truck, rear bolster, air compressor and mounting bracket and whistle were purchased from FSM. (See address in AMRM advert.)

The original marker lamps were cut off and the new ones glued in place. The plastic headlight was cut off the smokebox, care being taken to leave the inside glass intact so as to maintain the light. The FSM headlight was then carefully drilled out so it would fit over the glass and then the headlight was glued in place.

The new air compressor and mounting bracket were glued in place on the front of the engine. The generator was then fitted in the correct position on top of the boiler. The sandbox detail was then filed off the top of the boiler and a section of plastic, formed to

shape, added to represent the sandbox more correctly. The plastic whistle on the side of the funnel was then removed carefully and the new whistle shaped and glued in place.

The power reverse on the left hand side of the boiler, having been removed, was replaced with a unit from the scrap box. One could be fabricated from round Plastruc or similar material and added in place. Immediately behind this cylinder was placed another cylinder, with a dome shaped top, in the upright position (see photo for size and position). From this cylinder back to the cab a fine piece of wire was run, while a section of plastic strip (formed like a stretched 'L' turned upside down) was glued between the front of the power reverse cylinder and the running board.

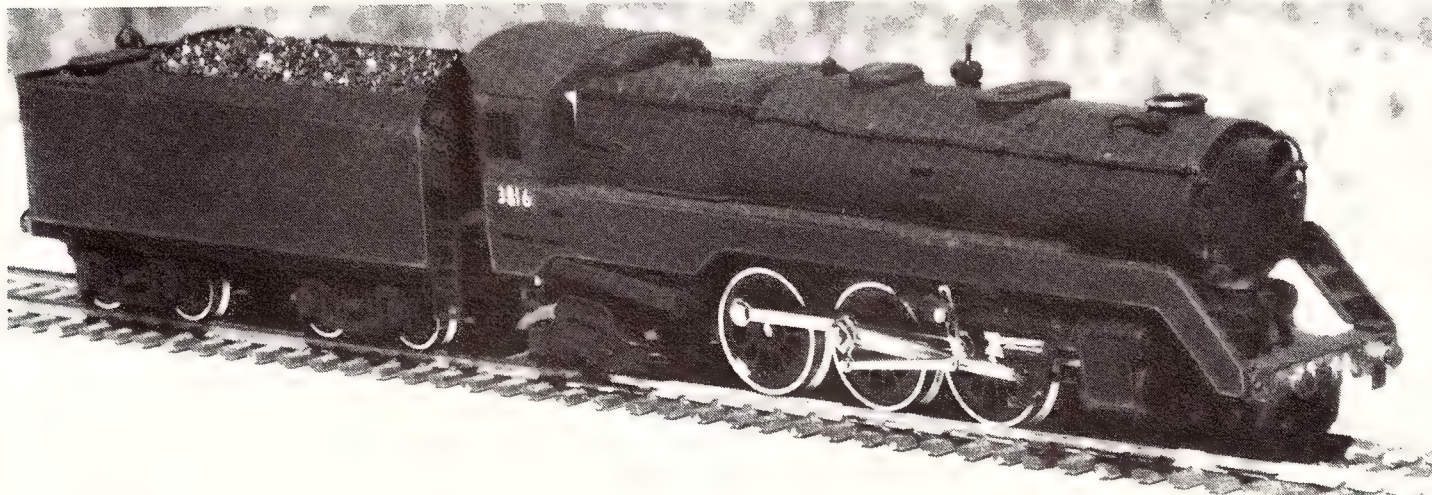
The locomotive mechanism was then turned over and the trailing truck removed. The FSM rear bolster was then glued in place, after the outer end piece had been cut off and reglued back on in reverse. (These apparently had been cast upside down but were easily rectified.) The new trailing truck was then fitted into position, being screwed into a new hole in the base nearer to the front of the engine. Make sure that the trailing truck cleared both of the rear driving wheels and the rear bolster.

The cylinders and valve gear on the Lima C38

are incorrect and some parts are missing. This deficiency was to be overlooked until a dismantled American tank engine provided a set of cylinders resembling those of a C38. The following adaptation is not recommended to the inexperienced modeller.

Both cylinders were cut off and the slide bars, piston rod and slides removed. The coupling rods, connecting rods, rocking arms, eccentric arms and the motion or expansion links on each side were left in place. A new radius rod, combination lever and union link for each side were fabricated from 1/32" brass with fine holes drilled in each end. The three arms were then assembled, small pins being used for rivets. A dab of solder on the rear of the pin was used to keep the pin in place but also to allow the joint to freely move. The radius rod was then placed under the motion link and held in place by the motion link retaining screw.

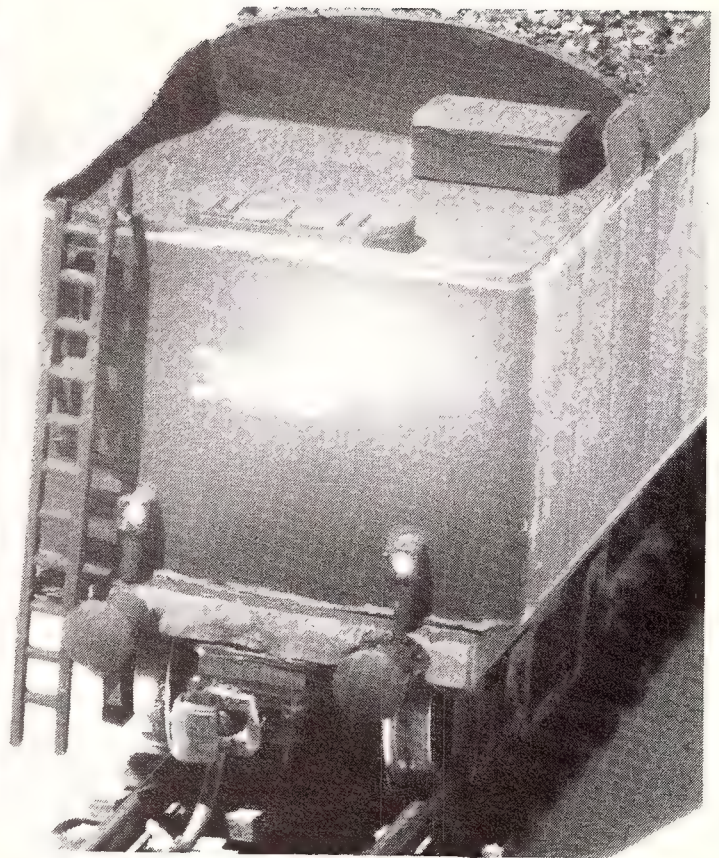
To prevent the radius rod from falling down it was glued (in place) to the motion link support. The new cylinders and the appropriate slide bars, piston rods and slides were next to be assembled. The slide bars were Araldited to the cylinders and left to dry. When completely set the union link on the Walschaerts valve gear was fitted to the drop link on the piston



Right hand side of C38



Front end of rebuilt tender



Rear of tender

slide below the piston rod. The cylinders were then added to the frames with Araldite using pieces of plasticard for packing and plenty of Araldite to ensure a firm bond. This all took much time to set up, adjust and fix in place as only one side at a time could be worked on and three days were allowed for the Araldite to completely set before the other side was worked on. It is important to ensure that the slide bars, piston rods, cylinders and valve gear are not only level and even but that they all worked freely and that the various components did not foul each other or any other part BEFORE the glue had set.

The next task is to replace the leading truck wheels with correct sized wheels. Jackson 10.5mm insulated metal disc wheels were selected. The axles were cut down so that they no longer protruded beyond the wheels, and then one wheel was pulled off the axle and placed into the pony truck frame. The loose wheel was then pushed back onto the axle and set for the correct back to back measurement (14.5mm). A light touch of super glue was added to the wheel/axle joint to ensure a firm fitting. Check that it does not bind on the frame. Repeat the process for the second set of wheels.

The last task on the engine was to file off the imitation inside cylinder heads under the smokebox and place the air tank (made from a small piece of plastic sprue) onto the frame. Rail guards were then added under the front buffer beams. The flanges on the driving wheels were not reduced, the task being deemed too difficult.

Now to the tender which has to be rebuilt. Except for the bogies, pick-up and drawbar the Lima tender was discarded. While the overall length of the Lima tender was nearly right the tender body was too short at the front. The bogies are nearly right although a little short and the tender wheelbase is correct, so that in the construction of the new tender the Lima

bogies and pick-up arrangement can be used.

The base was cut out of a section of 0.050" plasticard, where the pick-up arrangement was added to the top and the bogies added in the same manner that they were fitted on the Lima tender. The drawbar was added so that the drawbar holding screw attached to the pick-up arrangement as on the Lima tender. The drawbar is now set back on the tender so that the gap between the engine and the tender is reduced by comparison with the Lima tender. What in fact has happened is that I have made my new tender longer in the front when compared to the Lima tender.

Onto the base was added a plasticard box, shaped to take the coal on top and with the front partially open. Over the two sides and around the rear 0.010" layers of plasticard were laid, the veneers being marked out to show the rivets while the top edges along the coal bunker were curled inwards before being attached to the sides. Two veneer sections were made, one for each side, and they were joined under the ladder at the rear. The front and back plates of the coal bunker were then made up and fitted.

To the front plate were added two wings, a shovel plate and footplate and then all added to the main tender structure. A water hatch was cut from the Lima tender and glued onto the rear of the new tender top. The brake wheel, tool box and ladder were then made up and glue in place. Finally handrails, marker lights, buffers, couplers, steps, air reservoirs and imitation coal was added in the respective places.

For all these add-ons and modifications the Data Sheet plan of the C38 was invaluable. The tender was constructed from dimensions supplied on the Data Sheet plan.

The engine and tender were then painted matt black, lined in red and numbered with white ink. My C38 was then ready to run on the layout.

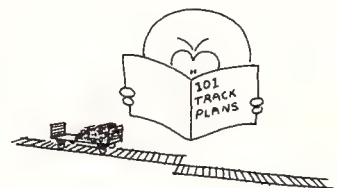
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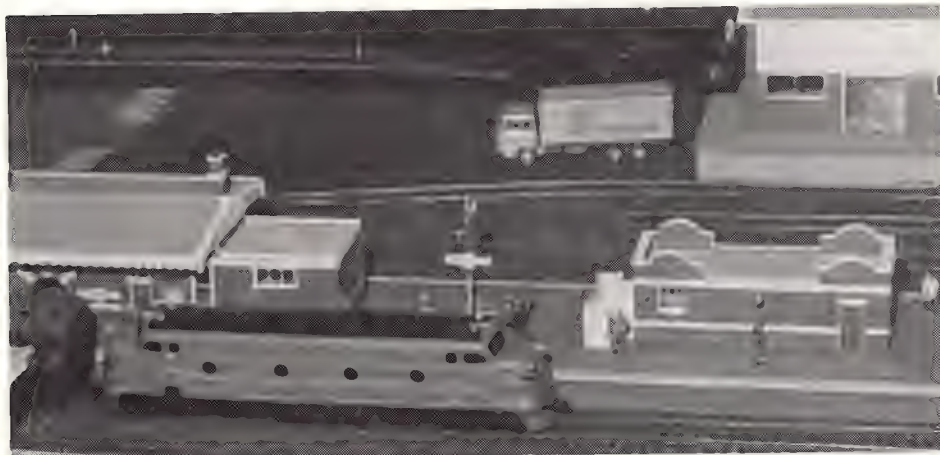
CLUB LISTING

In the December 1982 issue, a listing of Model Railway clubs will be printed. All clubs wishing to be included in the listing are invited to send (by 1.10.82) relevant details to:—

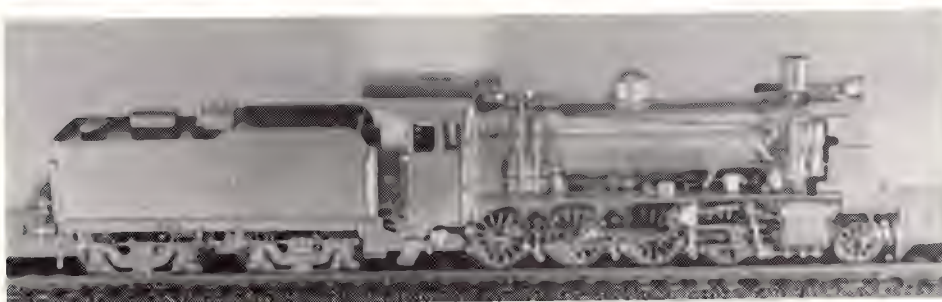
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1982 Melbourne Model Railway Exhibition



Two scenes from the Australian Model Railway Association, Victorian Branch HO scale layout that was built to 'Modrail-HO' standards. The photo above shows a tangerine and silver VR 'B' class loco on the head of a passenger train, while the scene below illustrates the station building that was based on Caulfield. Both photos by Allan Brown.



The pilot model of the Samhongsu built VR 'K' class 2-8-0 loco being imported by Broad Gauge Models. The pilot model was on display at the exhibition. Photo Graham Ball.



The Victorian Branch of the Australian Model Railway Association presented their 13th Annual Model Railway Exhibition at the Camberwell Civic Centre over the weekend of 5 to 8 March 1982.

Some 29 stands depicted many aspects of the model railway hobby. Displays and layouts featured models from 'N' gauge to live steam, representing many prototypes both from Australia and overseas.

It was good to see the 'Woodend' layout once again with its 1950's era Victorian Railway's operations. A new coal stage was noted. The attention paid to prototype operating practices, including some shunting, was well done. This was reflected in the layout being judged best layout at the Exhibition.

The AMRA layout constructed to Modrail — HO standards featured a very nice station building based on the Caulfield station in Melbourne. Unfortunately periods of non-prototype operation marred the layout's presentation somewhat. However the display of VR/SAR/ANR locomotives and rollingstock including the new green and gold Australian National (AN) colours, seen on the Sunday afternoon, was excellent. The younger modellers concerned are to be commended for their work.

The Kingfield, Twinlakes and Maine Railroad also deserves special mention. This very well detailed layout is a credit to its creators. As it is based on the Maine USA 2ft gauge operations, the structures, locomotives and rollingstock had to be scratch built or created from modified kits. The detail on the layout attracted much interest from visitors to the exhibition. The layout is to feature soon in several American model magazines and in a future issue of AMRM.

The trade was well represented with a wide range of models, books, etc. The pilot model of the Broad Gauge Models V.R. 'K' class steam locomotive in brass attracted a lot of interest. The high standards we have come to expect from Samhongsu should continue with this model. Hopefully it will expand the interest of modellers in V.R. prototype.

A sample of Fybrn Models' next injection moulded 'N' scale kit, the 'VLX' louver van, was on display. The samples indicate the same standard that the Fybrn 'ELX' set. Australian Locomotive Co, while not having a stand at the exhibition, kept the forthcoming model of the V.R. 'N' class before the public with large posters on participating hobby shop stands.

An extensive range of Japanese 'N' scale locomotives and rollingstock was also on display. Many items do not appear to have been available before, in Australia and offer a new dimension to 'N' gauge layouts.

The range of British prototype 'O' scale items continues to increase and this could assist a resurgence of interest in this scale. The range of kits and pieces available from the UK for 4 mm scale modellers is also quite extensive and many items could be useful to Australian modellers.

When the Australian, European and American prototype equipment on show at the exhibition is also taken into account, it highlights the almost bewildering array of items now available to modellers in this country.

The exhibition showed a good cross-section of the model railway hobby and the standard of layouts was good. The exhibition committee are to be congratulated on their efforts and I trust they receive similar support next year.

Graham Ahern

A photo of "WOODEND" appears on page 11 of this issue.

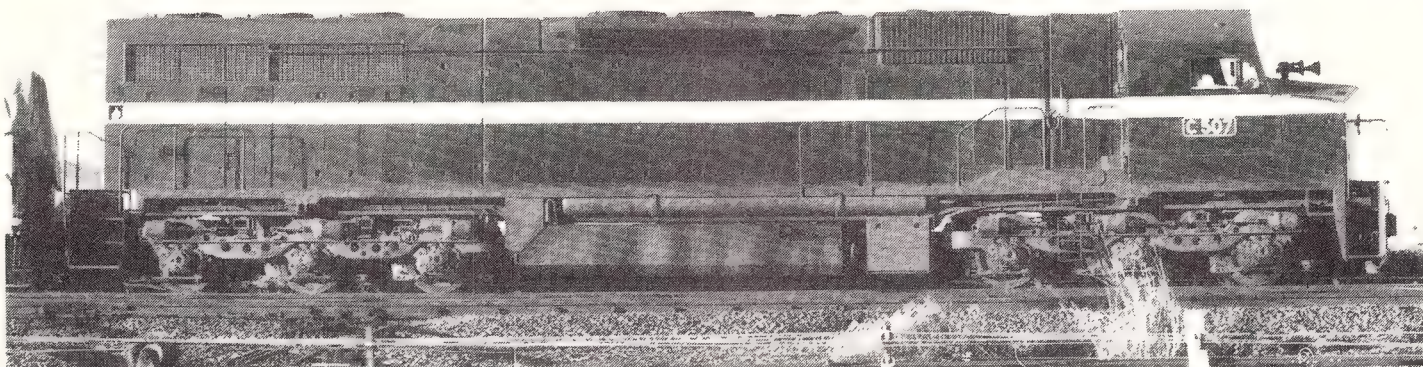
The photo (left) illustrates a town scene on the narrow gauge Kingfield, Twinlakes and Maine Rail Road exhibited by Doug Kelley, Bob King and Tony Walshman. This superb layout will be covered in more detail in future model magazines, including AMRM. Photo Allan Brown.

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Indexes for A.M.R.M. Volumes 5, 6, 7, 8 and 9 are available, gratis for A.M.R.M. readers. Those requiring the respective indexes should send a self addressed stamped envelope (9" x 3½"), with the volume number printed on the back to:—

SCR Publications
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VicRail 'C' Class Diesel Electric Locomotive



The firemans side of C507, photographed at Murtoa in June 1979.

As the locomotive shortages experienced by the Victorian Railways in the early 1970s became more acute, orders were placed for twenty new locomotives. The additional locomotives would increase the availability of motive power and allow the V.R. to return the three 'GM 12' locomotives on hire from the Commonwealth Railways since late 1971.

The first ten locomotives were Clyde-General Motors (GM) model G26C and became the third series of the 'X' class. They were introduced in 1974-75.

The second batch, however, were to be Clyde-GM model GT26C, similar to the WAGR 'L' class but fitted with an alternator and a modified cab (the body design having some similarities with the EMD SD40 locomotive as used in the U.S.A.).

The first rumours suggested that the new locomotives would be classified the 'H' class (the existing 'H' class being reclassified) and that the numbers would start at 220. Thus the new locomotives, as the most powerful on the V.R., would perpetuate the class number of the legendary 'Heavy Harry' 4-8-4 steam locomotive.

In time the V.R. announced that the new locomotives would be allotted the 'C' class coding and the numbers would run from 501 to 510. By coincidence, the original 'C' class 2-8-0 steam locomotives were to have been given the 'H' class coding but were introduced to service as the 'C' class.

Although the 'C' class is similar to the older WAGR 'L' class, the external appearance is drastically altered by the full-width "crew comfort" cab. Due to the cab design the locomotive is effectively indirectional and must be either turned at the end of the run or multiple united with another locomotive in the leading position. The 'C' class is the only turbocharged

Article – Phil Jeffery & Graeme Brown
Photographs – Peter Vincent
Plan – Graham Brown

locomotive in the V.R. fleet. The effectiveness of turbocharging can be seen when it is realised that the 'C' class develops 2460kW engine power and the third series 'X' class develops only 1640kW using the same engine without the turbocharging.

All members of the class are painted in the standard V.R. royal blue and gold livery as applied to hood unit locomotives, except that no "wings" are applied on the rear of the hood.

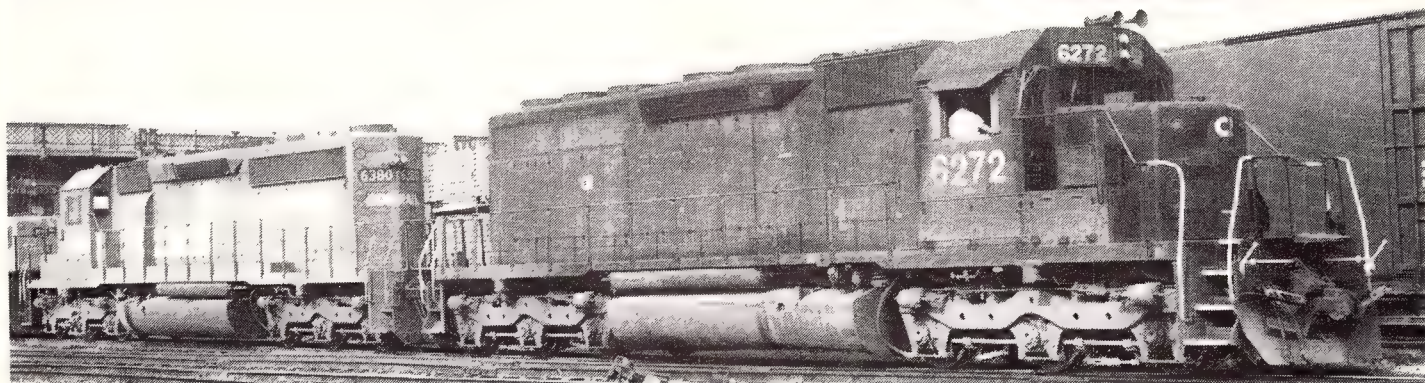
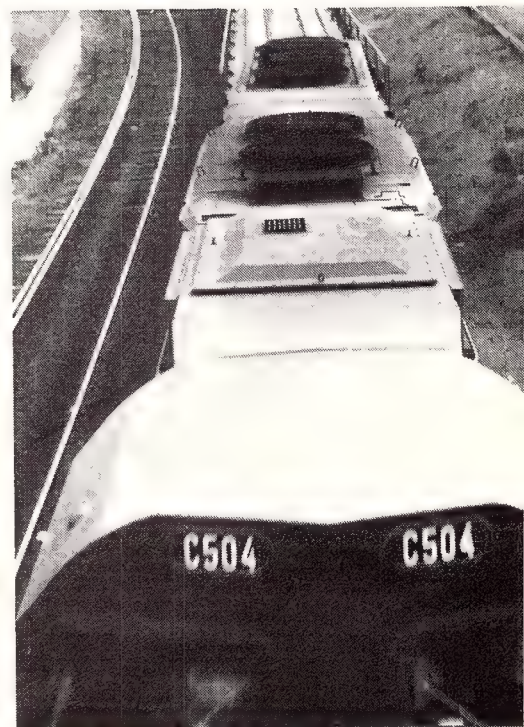
The high mass and subsequently high axleload has restricted the 'C' class to running on the Western Line to Serviceton and the Northeastern lines (standard and broad gauges) to Albury, mainly hauling the interstate "Jets" (high-speed freight trains), where their high horsepower can be used to advantage.

The 'C' class also see occasional use on passenger trains but the speed restrictions applied to the class has prevented their use on the interstate passenger trains except on test or in emergency. Although geared for a maximum speed of 133 km/hr, the condition of the trackbed, especially on the Western Line, has resulted in a restriction to a maximum speed of 95 km/hr.

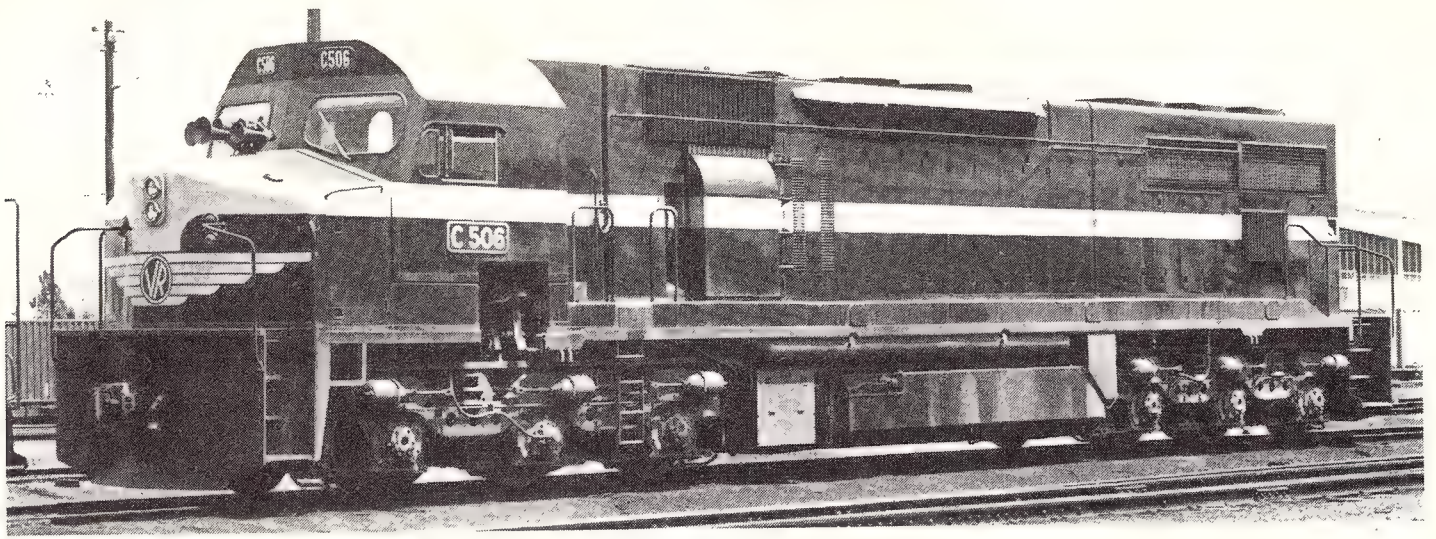
In late 1979 it was proposed to run the 'C' class through to Adelaide instead of changing to Australian National Railway locomotives at Serviceton. The greater horsepower of the 'C' class compared with anything on the ANR Central Division would allow the speeding up of trains over the Mt. Lofty section. Test runs were made and some of the 'C' class were

fitted with radio so that they could operate in South Australia, but at the time of writing (Sept. 1981) nothing has happened and the 'C' class still come off the train at Serviceton.

Locomotives fitted with radio can be distinguished by the "radio control" signs on the cabside and between the numberboards on the front of the cab. This is the only difference between members of the class, apart from the nameplate "GEORGE BROWN" on the



At the head of a Conrail freight departing Chicago is a standard SD40, one of 1257 built for North American service (US, Canada & Mexico). The trailing unit is an SD40-2.

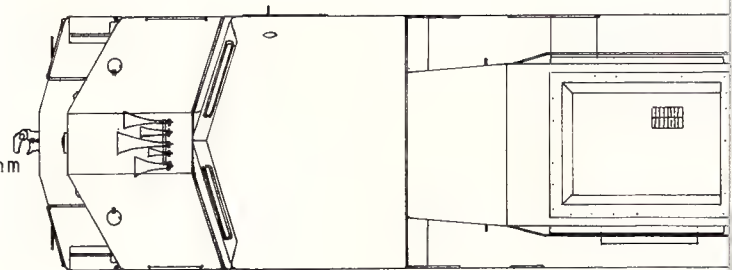
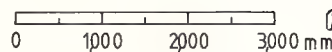
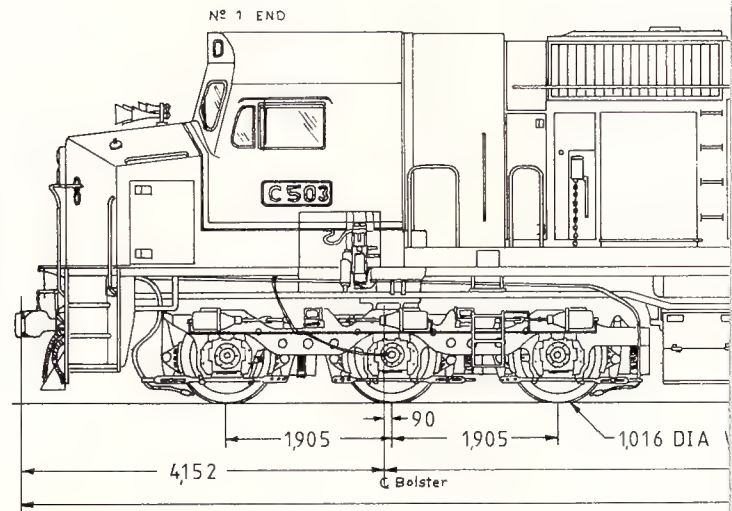
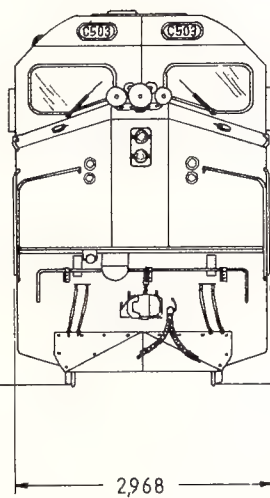
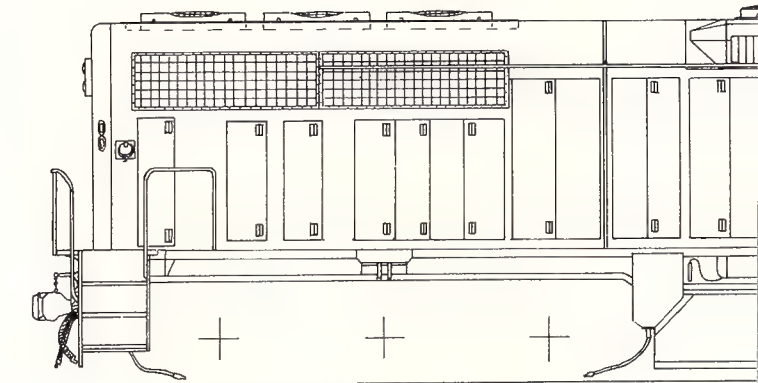


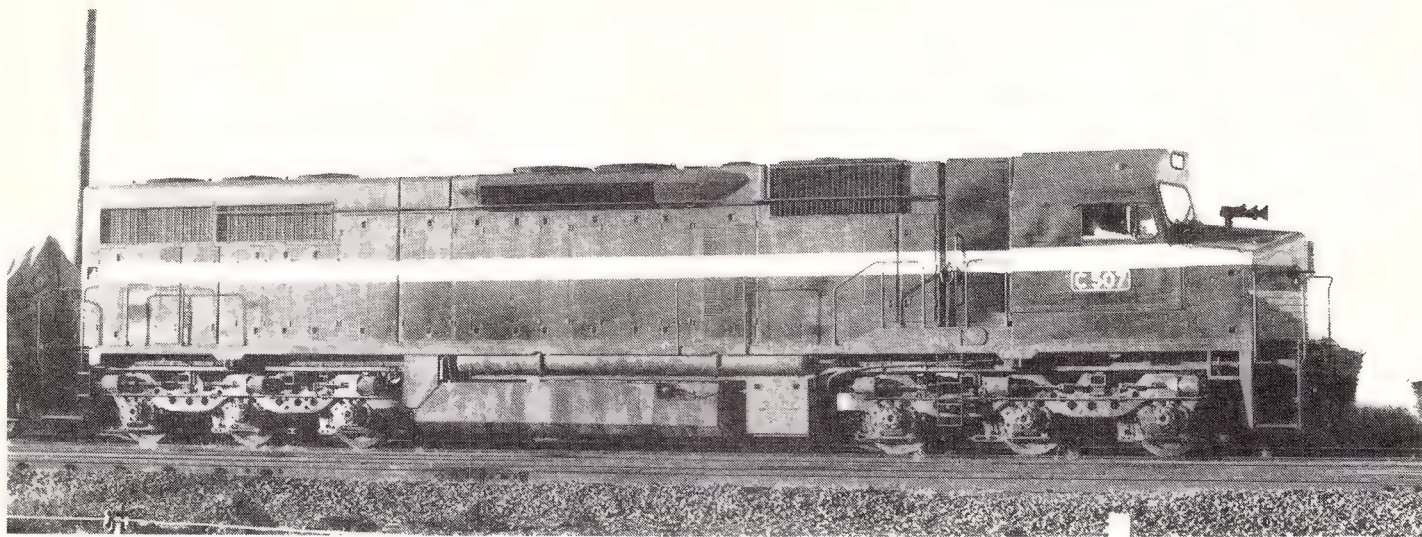
Drivers side of C506

TECHNICAL DETAILS

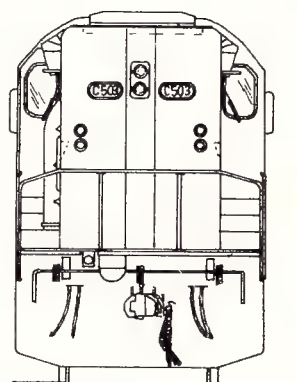
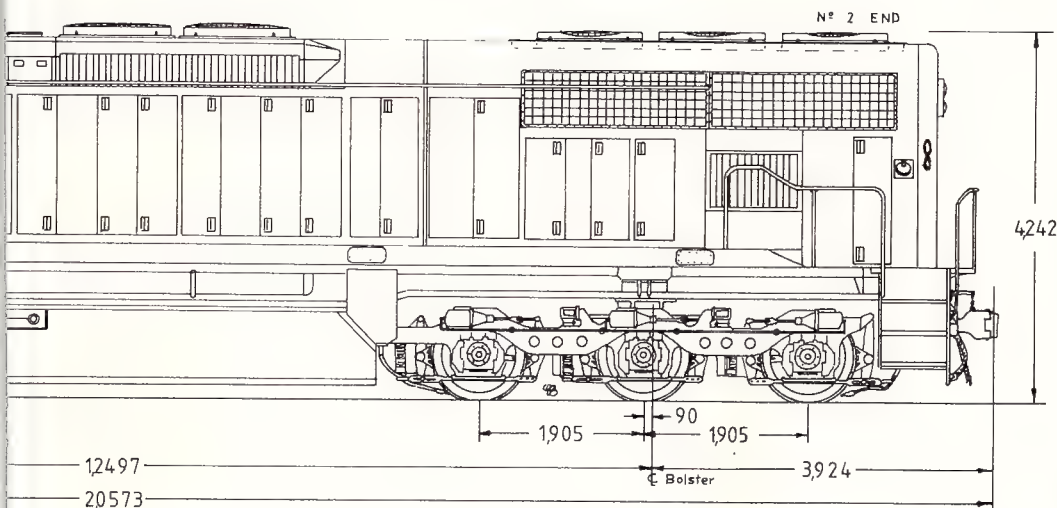
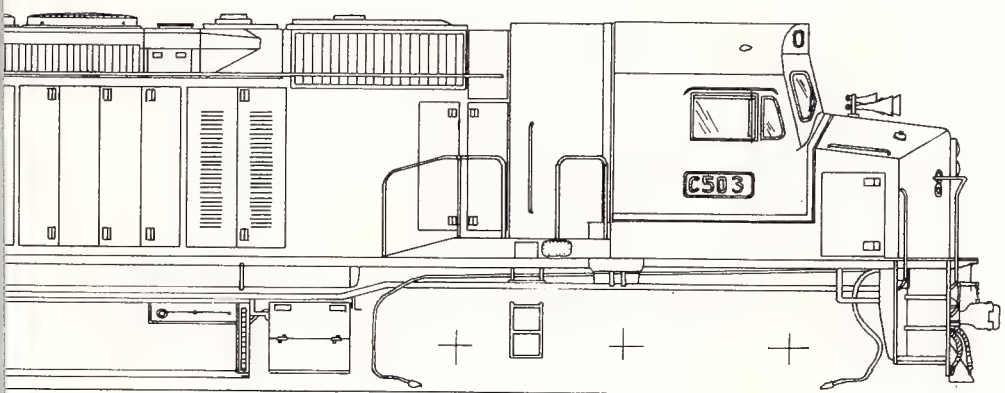
Mechanical: Engine — EMD 645E3 V16 two-stroke — rated at 2460kW at 900 rpm. Main alternator — EMD AR10 A4-D14. Traction motors — 6 X EMD D77. Gear ratio — 59:18. Traction power — 2240kW at rail.

General: Starting tractive effort — 330kN. Continuous tractive effort — 289kN. Continuous speed — 23.4 km/hr. Maximum speed — 133 km/hr. Capacities — fuel oil, 10,128 l; lube oil, 918 l; cooling water, 1118 l; sand, 0.34 m³. Total mass — 134.15 tonnes. Mass per axle — 22.36 tonnes. Gauge — 1435 mm (standard); 1600 mm (broad). Numbers — 501 to 510 inclusive. Introduced 1977-78. Number in service — 10. Model — CLYDE-GM GT26C.





Firemans side of C507



**VIC RAIL 'C' CLASS
DIESEL ELECTRIC
Nos. 501-510
Drawn as running in early
1979
Scale: 1:87.1
Drawn: G. Brown**

SCALE	
1:87.1 All dim. in mm.	
DRAWN G. B.	Des. No.
DATE 13/4/81	D 2

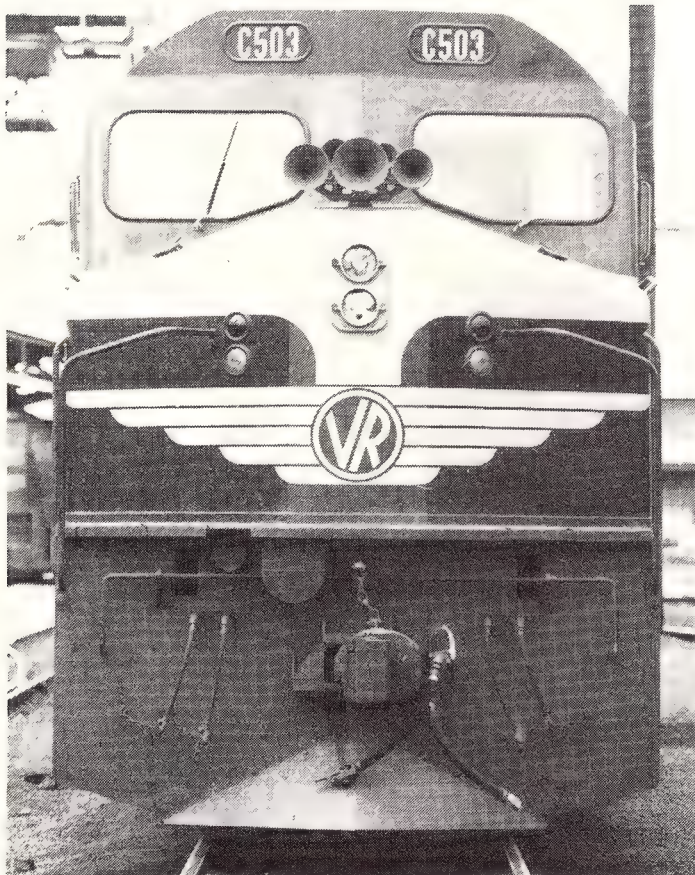


Above Left: Drivers side showing steps to cab.

Below Left: The narrow yellow stripe below the headlight is unique to C503, other units having a full width band.

Above: The paint scheme on C501 is standard on all units except C503.

Below: No. 2 end of C509.



cabside of 501.

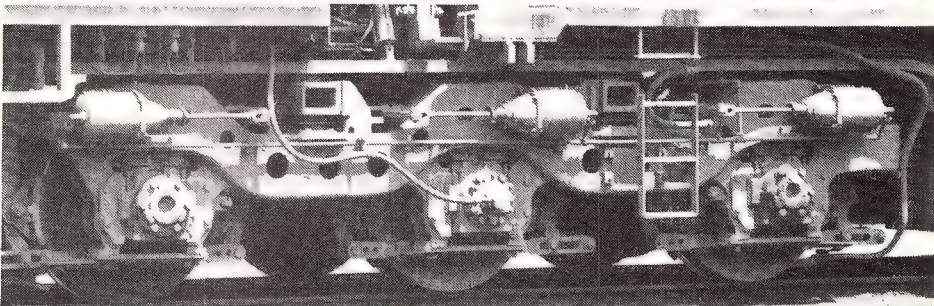
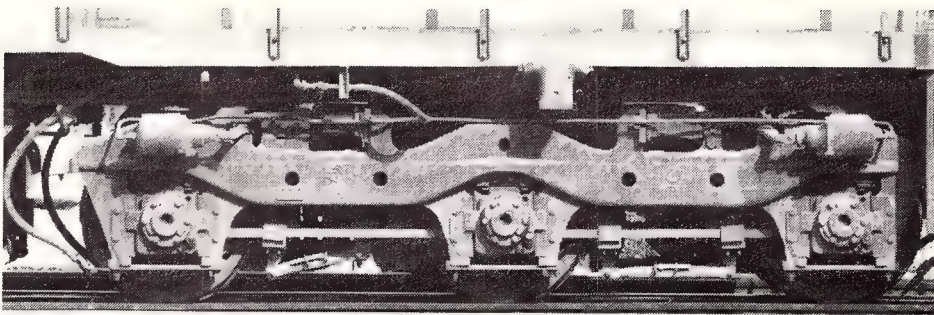
The first of the class to be delivered (from the Clyde Engineering Roseworthy factory) was 501, which hauled a train through from Adelaide on May 14, 1977, and was named "GEORGE BROWN", after a former CME (Chief Mechanical Engineer) and later Commissioner of the V.R., at a ceremony at Spencer Street station on the 17th of May. The last locomotive to be delivered was 510 during May 1978.

November 1981 saw more regular use of C's on the Overland, and C504 was seen double headed with visiting NSW loco 42214 on the standard gauge.

Who knows what 1982 will bring? C's running regularly to Adelaide? An orange 'C' at the head of the Overland or Southern Aurora?

Top: An example of a bogie found under a SD40. This particular bogie was under Conrail SDP45 6667.

Bottom: The bogie as used under C506. Note the differences from the bogies are used under the American con counterpart, especially the additional brake cylinder.



MODELLING PROJECT

VR "C" Class HO Diesel Conversion

Kitbashing a VR "C" class loco from an Athearn SDP40 and F45.

By Peter Gibbs.

Kitbashing a new model from scratch can be both a frustrating and a rewarding experience, especially when there is no one else who can assist with helpful hints.

The idea of kitbashing a "C" class has been in the back of my mind since I kitbashed a Commonwealth Railways CL class diesel from an Athearn F45 long hood and an F nose, following the instruction in an AMRM article by Neil Graham.

The leftover F45 nose looked vaguely right for a "C" class, with a few modifications, so I decided some months later to attempt building the "C". This article is the result.

This project uses the components mentioned above, and thus the purchase of two powered Athearn chassis, plus an F dummy, proves quite economical for the result of two very Australian locos.

However, an alternative method is to graft a scratchbuilt nose and cabin onto the SDP40 long hood and chassis. It is cheaper but your modelling skills need to be fairly good. I will try my hand at this method when I build my second "C".

Dimensions

You will see from the dimensions table that the final model is pretty close to the prototype, except in long hood length and overall height. The kitbash is 2'3" short in the long hood — the additional length being required immediately behind the cabin — and 2' too tall. Neither discrepancy detracts from the look of the finished product.

Bashing the Kits

SDP40 Body

Remove body from chassis, window glass from cabin windows and cabin roof. Measure 3 HO scale inches forward of cabin rear edge on both sides score vertical line with knife and then carefully cut cabin from long hood with a

razor saw.

To reverse the group of three rear roof fans on the long hood, make two vertical cuts, one immediately in front of the side ventilation grills (21' from end) and the other 6" in from end. Depth of the cuts is to just below side grills. Score sides between vertical lines separate, and reverse piece so that the group of three fans is to the rear. File off other roof detail on this piece together with all detail from long hood end. Fill in light holes.

A little tip: when reversing the roof fans, the saw cuts may have removed more material

than wanted, resulting in unsightly gaps. Shim up these gaps with microstrip before cementing roof fans assembly back onto long hood. A later coat of blue paint will cover them completely.

The raised walkway along the left hand side of the long hood needs to be extended a further 12 feet. Fashion a 10 foot section (1' x 1'6") and a 2' ramp section from .20" styrene and fit.

F45 Body

Remove body from chassis and measure 11' from rear of front steps on each side. Scribe vertical line and carefully cut nose from body. As a check, cut lines should be immediately in from side steps.

Remove front number boards from cabin top and cut off roof section flush with window tops. Now remove windscreen frame and nose top as per photograph. Remove only enough of the nose to leave the front panel 5' high at the centre, and 4' at each side.

Reconstruction

Here's your chance to make like a famous plastic surgeon — fashioning a new nose.

First cut out a new windscreen frame from .040" styrene as per diagrams. Test fit to cabin frame. Score a centre vertical line with your knife or scalpel. Then bend slightly backwards to obtain correct windscreen angle. When fitting to cabin frame ensure that bottom of windscreen frame is tilted forward 9" for the correct rake.

When satisfied with the look cement to outer frame.

Cut out longitudinal nose support frame 6' x 1'6" and glue to inside of nose and lower windscreen frame. Tilt slightly upwards. When dry measure out a new nose top from .020" styrene. It will be chevron shaped with the sides about 3'9" and the centre about 5'9"

TABLE 1 DIMENSIONS			
VR "C" class diesel conversion.			
	Prototype	Model	Kitbash
Body			
— length	64'6"	67'	62'
— width	9'6"	10'	10'
— height (from railhead)	14'	16'	16'
Cabin			
— length	13'9"	13'	13'6"
— width	9'6"	10'	10'
— height	8'6"	10'	10'
Long Hood			
— length	49'3"	47'	47'
— width	6'	7'	7'
— height	8'6"	10'3"	10'3" (inc fans)
Chassis			
— wheelbase	53'6"	53'	53'
— bogie centres	41'	39'	39'
— bogie wheelbase	12'6"	13'6"	13'6"
— o/a length	60'	59'	59'
— width		9'	9'
— Fuel tank			
length	16'5"	19'	
height	3'6"	3'	

long. I say about, because you will need to measure and shape this piece to your own model. As long as it is a neat fit against the windscreen frame, don't worry too much about the sides and front as we are going to file off all excess material.

Cement to cabin frame, ensuring you get the correct upward tilt (1 foot front to rear). When dry carefully file all nose edges so that your new nose merges with the existing frame. The edges are slightly rounded anyway, so by filing away almost all the new material at the edges the result is smooth and unnoticeable when painted. At the same time file all other existing detail from cabin front and sides.

To complete cabin roof we use the roof from the SDP40 and the number board from the F45. Cut the front number board from the SDP40 roof leaving a section of roof 6' long. Test fit this roof section with F45 number board and shim the number board with styrene to obtain the correct height. Now file number board leading profile to match windscreen frame rake.

At this point test fit the new cabin to the long hood. Ensure that the bottom of the body frames of both sections form one line. You will probably find that the cabin roof line is too low and styrene strip shims will be needed to build up the cabin sides to the correct roof line.

When satisfied that the two parts match perfectly, test fit to chassis to ensure proper clearances. If that is OK glue the cabin and long hood together using a strip of .010" or .020" styrene to overlap the inside join for added strength. Fill any holes with body putty and with fine grit sanding paper sand the entire cabin assembly to a smooth finish. This may take some time but it is well worth it. The dark blue Floquil paint highlights any imperfections, so it is best to get it ultra smooth now.

The "C" class has a distinctive rounded roof line and the only way to get it is by painstakingly filing of both the roof and number board until they match perfectly. When satisfied, glue to cabin frame. Use body putty to fill

in roof hole where existing two chime horn resided.

Buffing Plates

File leading edges of front steps and existing buffing plate to a vertical plane — removing the forward tilt. Construct new buffing plates, front and rear from .020" styrene to the following dimensions:—

Front — 4' (angling up to 3'6") by 8'9" top, 9'3" bottom.

Rear — 4'6" (angling up to 4') by 9'3"

Cut out coupler pockets of appropriate size front and rear. Front pocket is left enclosed, rear pocket open at bottom to allow body removal from chassis.

Chassis

File back outer edges of chassis frame, especially at front where it contacts the new cabin, for easy fit. If you so desire file back the fuel tank to a square profile, or construct a square tank from styrene or brass sheet as per

LIST OF MATERIALS

- 1 Athearn F45 unpowered diesel loco (if you do not intend to also make the CL.)
- 1 Athearn SDP40 powered diesel loco
- 1 sheet .40" polystyrene
- 1 sheet .20" polystyrene
- Clear plastic or perspex for windows
- 1 5 chime air horn
- 1 set Kadee couplers
- Thin gauge brass wire
- Detail Associates MU 1507 MU receptacles
- LR 1102 Lift rings
- LR 2205 Coupler lift bars
- 1003 Dual headlights (2)
- 1 sheet Helvetica 6 pt Letraset (or similar)
- 1 sheet M'n J decals VR diesel decal set
- Floquil Enchantment Blue (no. RR57)
- Humbrol Matt Yellow (no. 24)

diagram. I did not super-detail the chassis for this article but will probably do so for later models. Any reader who has any bright ideas for this part of the kitbash may like to put a few words on paper.

I also fitted a constant brightness headlight system to the vertical support of the chassis front, at this point.

Detailing

Detailing really makes the model, so it is worth putting a little effort into the finishing touches.

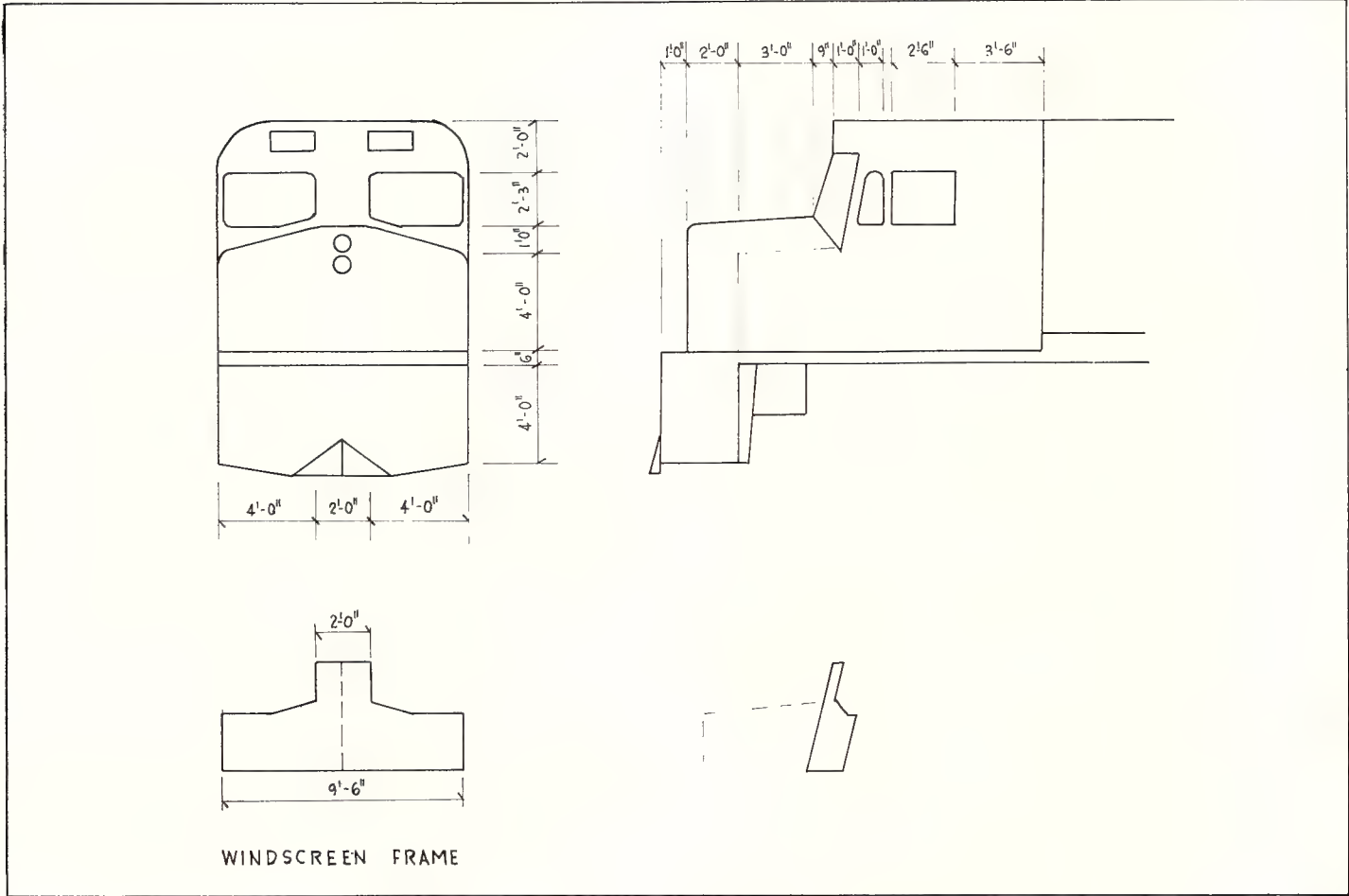
Cut out window glass and insert inside cabin. Fit five chime air horn to centre of nose deck. Fashion grab rails from brass wire. All side and rear walkway grab rails are 3'6" high and of varying widths (see photos for reference). An overhead grab rail is also fitted down each side of the long hood from just behind the cabin to between the two long, rear ventilator grills. Bend slightly to fit around the centre vent on each side.

Fit MU stands, lift rings, coupler lift bars and air hoses to front and rear buffing plates, using the photos for reference. Fit marker lights to each side of the nose and end, and the dual headlight frame to the centre of the nose and end. If you are not intending to use constant brightness headlights, then fit headlight jewels. If using power headlights, drill twin holes in each frame, large enough to accept "grain of wheat" light bulbs.

Painting

Wash body in warm water and detergent to remove oil, grease, etc. Set aside to dry, or dry with a hair dryer set on low setting. It is worthwhile for all metal surfaces on both body and chassis to be primed with Floquil Zinc Chromate Primer. When thoroughly dry (at least 48 hours) spray entire body, including inside of cabin, with Floquil Enchantment Blue. Allow to dry before handling further.

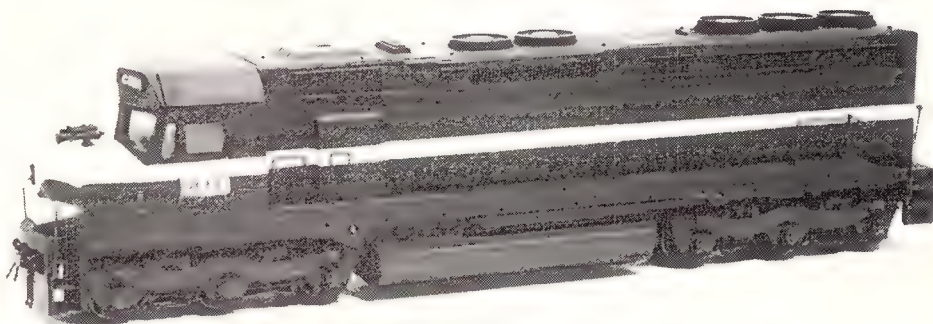
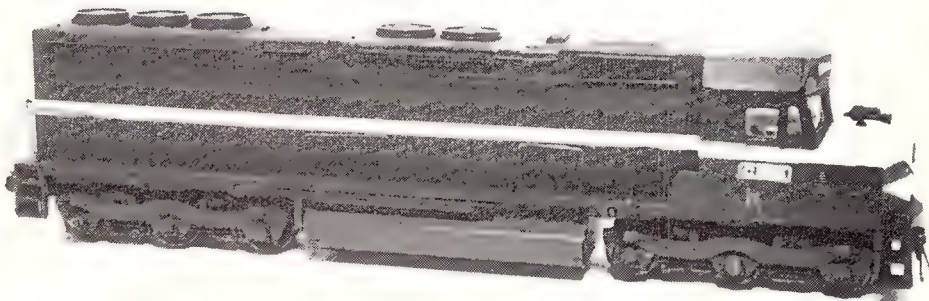
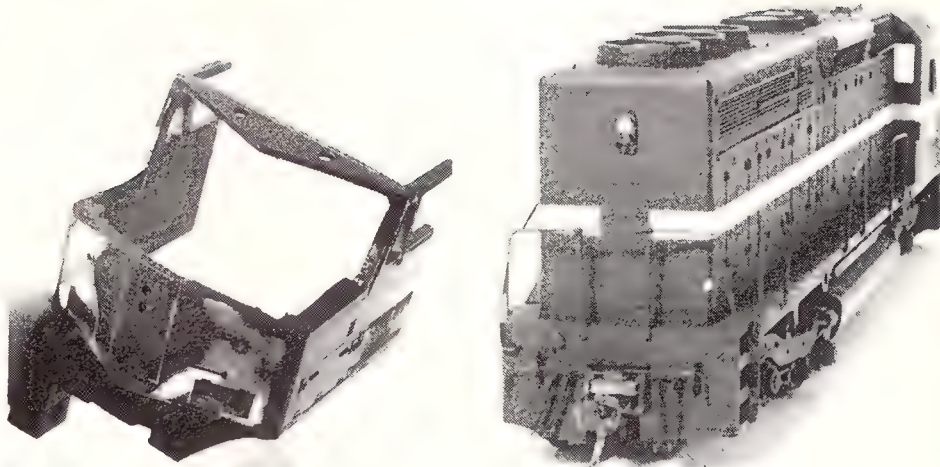
Now paint cabin nose deck Humbrol matt yellow as per photos. A yellow strip 9" deep is



You can use decal yellow strip supplied in MnJ decal kit, or mask off sides and end and paint the yellow band around the loco. Please note that the band does not go completely across the back of the long hood but stops 2'6" from each side. This is to allow for the VR emblem to be placed between the converging band. I have deliberately left the emblem off in the rear view of the model to illustrate what I mean.

To finish identifying marks you can either paint on the loco numbers on each side and on the roof mounted number boards, or you can prepare same from either appropriately sized decals or Letraset. I used 9" high decals for the cabin sides, and 6pt Helvetica Letraset for the number boards.

A cartoon illustration of a train set. A box labeled "AUSTRALIAN TRAINS" and "NEW!" is on the left. A train engine is on the tracks, moving towards a character with a large head and a sad expression. A sign above the train says "SAM'S TRAINS" with stars. A small sign above the character says "HORNEY".



WHY BE DIFFERENT?

A Review of Axle Length Standards by Ross Hurley

One of the aims of model railway standards is to enable interchangeability of components. One expects a wheel pair made for a particular gauge to fit into a wagon kit made for the same scale/gauge. There is a great deal of standardisation in HO gauge. As an example, in the British kit-building market, if one purchases a pair of Ultrascale wheels, they should fit, with Maygib bearings, into a Ratio underframe kit such that they will run freely and without excessive slop. This they do. So do different combinations of brands of wheels, bearings and wagon kits.

Similarly, in North America, a modeller can exchange, for instance, an Athearn wheel pair with a Roundhouse one if he chooses. They can do this in both countries because, amongst other things, the axles are all machined to the same length and have a standard angle of pinpointing.

Standards can be trans-national. The track gauge of 16.5mm for HO and HO/OO in North America and Britain is a case in point. Axle dimensions for HO gauge track are trans-national. Both the NMRA of the USA and the 4mm scale organisations in the UK have recommended a length of 26mm, and a pinpoint taper of 55° for all axles. Scale model manufacturers in both countries have adopted these recommendations.

As an aside, this standardisation does not apply as a rule to the ready to run market. Hornby, Lima, Lifelike, Rivarossi, etc. all make to their own, differing standards. They expect that their purchasers in the toy market, which their sales are principally aimed at, will not want to run any item in any other way than in an out-of-the-box condition. As they will probably remain untouched by the standards enthusiasts place on scale models they will not be discussed further.

Australia's two bodies issuing standards, the SCMR and the AMRA, also recommend the 26mm length and 55° pinpointing for Australian modelling. They have done this for the reason stated above; to allow interchangeability. In general, standards applying to other aspects of modelling also share a high degree of commonality with overseas standards. Because a lot of our products come, or used to come, from overseas it made no sense for a relatively small fish in the modelling world (Australia) to advocate different standards and attempt to have overseas manufacturers making items for big fish (Britain and America) change to suit us. If an overseas standard works, that is, ensures interchangeability and reliable running, it is in the interests of Australian modellers, generally, to adopt the same standards. I believe explicitly in the soundness of that policy.

I am now going to advocate a change.

At present there are a number of manufacturers making wheels for the Australian market. Whilst they have generally kept close to wheel standards applicable to Australia they have each decided to make their axles to different lengths. The advantages of interchangeability have been lost. This situation is not helping those manufacturers of injection moulded kits who have to space solebars and bogie sideframes to fit available wheels. For the long term benefit of the hobby the situation needs resolving. I do not think the way to do it is to influence the manufacturers to adopt the international standard of 26mm.

Why not? Let us look at how the 26mm axle fits typical models in Britain, America and Australia. In a British 4mm scale model, even a small prototype four wheel wagon is wide

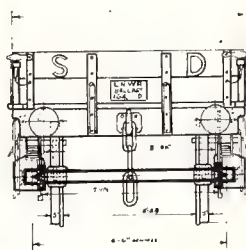


Figure 1a
British Standard Gauge — OO Scale

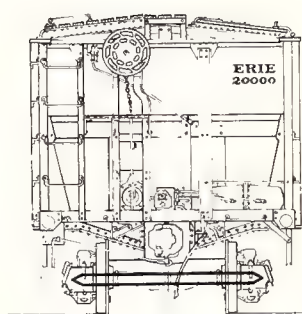


Figure 1b
American Standard Gauge — HO Scale

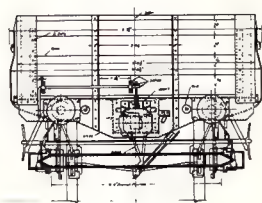


Figure 1c
NSWGR Standard Gauge S Wagon — HO Scale

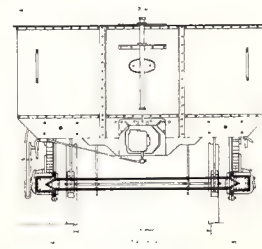


Figure 1d
SAR Broad Gauge Y Class Wagon — HO Scale

enough to accommodate the standard axle and two standard brass bearings. Figure 1a illustrates this. In this drawing, as in the others, the standard axle and bearings have been superimposed on an appropriately scaled prototype drawing. In America, though modelling in the smaller 3.5mm/1ft scale the prototype vehicles are so large that the standard axle also fits easily. See Figure 1b. Turned brass bearings are not used in America so they are not shown.

In Australia we are attempting to fit that same axle and those same bearings into tiny four wheel wagons in 3.5mm/1ft scale. Figure 1c shows how much too long the standard axle and bearings are when overlaid on a NSWGR standard gauge S wagon.

For comparative purposes Figure 1d shows how it all fits into a broad gauge vehicle. It fits without too much of a squeeze into a relatively modern SAR Y class wagon but some of the older stock had shorter journals and hence smaller axleboxes. Even if we take it that HO broad gauge is no problem it still is a serious matter for the seventy percent of Australian prototype modellers who model 4'-8 1/2" gauge.

What are our options to resolve this difficulty?

One is to widen the solebars and possibly the wagon bodies as well so they fit. I consider this to be the least acceptable way as it is falsifying the accuracy of the model. There will be some cases in very small wagons where the axleboxes will be wider than the sides of the model when, on the prototype, they are well underneath. Adoption of this policy in Australia would saddle future modellers with permanently distorted models, as the trend in other areas to build models closer and closer to scale continues. The serious enthusiast would be forced to separate from mainstream modelling as Protofour enthusiasts did in England to escape the OO scale/gauge distortion.

Another option is to file the bearings back almost to where the point of the bearing recess breaks through. This will reduce the overall bearing-axle-bearing length to about 26mm or thereabouts, still exceeding the scaled prototype width of the S wagon when one takes into account the diameter of the body of the bearings. Some element of solebar widening is still required, and the irksome effort in fitting bearings would hardly be a point in favour of this solution.

A further choice is to dispense with the bearings. Good as pinpointed axles are their rolling qualities when running directly in plastic or white-metal are not nearly as good as when running in brass bearings. Their near universal use in England did not come about for no reason at all. Though white-metal is used as a bearing material in the engineering industry, in small scale models it compares poorly with brass. The absence of bearings will limit train lengths and/or force bigger motors to be installed in locomotives.

I said earlier that brass bearings are not used in American modelling. It is true, they are not. However, their bogie sideframes are almost always made of a very slippery delrin plastic or, as in the case of Central Valley's fine running bogies, are a very high quality steel casting. Neither of these approaches are likely to occur in Australia's small market. In the long term the wearing qualities of injection moulded plastic and white metal are also not as good as brass. Even if they were acceptable in respect

of rollability and wear it should be noted again that the width over axleboxes of standard gauge vehicles is barely longer than the axle itself in most cases, and shorter in some, so this solution should be rejected for the same reasons as the first.

The last alternative is to use short axles, made for the Australian market. This would enable local manufacturers to make models of rolling stock without resorting to widening of the solebars and bogie sideframes. And modellers will be able to fit any Australian wheel into standard bearings and into any Australian model and be sure of a consistent standard of rollability.

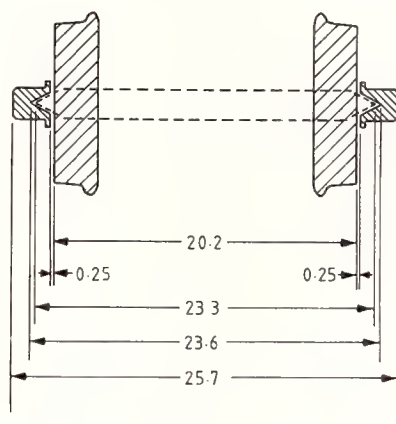
What length of axle would achieve this? I recommend 23.3mm. Figure 2 shows how I determined this.

I plotted a pair of typical HO gauge wheels, and positioned brass bearings as close as possible to the wheels. I allowed 0.25mm running clearance between each wheel boss and bearing face. That made the overall width over bearings 25.7mm. A NSWGR S wagon is only four tenths of a millimetre wider than this over axleboxes, so I concluded that this was the longest practical length of axle and bearing unit that will fit into NSWGR HO scale wagons. The required axle length, then, is the distance from bearing point to bearing point, 23.6mm in Figure 2, less a reasonable amount for end float, say 0.3mm. Thus my recommended axle length is 23.3mm.

For calculation purposes, and to ensure that this axle length would not prove too short for some brands of components, I used the widest

of a range of commonly used wheels I measured, and the measured dimensions of Maygib bearings. The wheels used were North

Figure 2



Recommended axle length: 23.3 mm

Yard, which exceed the NMRA maximum width slightly. Maygib bearings were used because they are the most commonly used in Australia, and are slightly longer than the original of the species, the Protofour bearings by Studiolith. I did measure a couple of brands, made closer to home, but found individual bearings within each packet varied too much for them to be used for comparative purposes.

I guess when one makes any radical proposal to change the established order of things one does not expect it to be accepted overnight, nor without argument and discussion. I will also concede that, if the shorter axle were accepted in principle, others more skilled in the formulation of standards should examine the question of length in detail and report their findings. Running trials would be a final step before adoption of a new recommended standard. While wheel manufacturing for the Australian market is still in its infancy any changes required would be easier to accomplish now than later.

There are more sides to this issue than what I have said here. Whether axle length for bogie stock needs to be changed for instance, axle length standards generally for such organisations as AMRA and SCMRA when they must accommodate members modelling overseas prototypes too (two standards, International and Australian?), the willingness of manufacturers to change, etc.

The present situation of different lengths available for sale needs resolving one way or another. I believe that the short axle is in the interests of Australian modelling.

AMRM NEWS

Last issue, No. 113 was the 50th issue of A.M.R.M. in which Bob Gallagher had been actively involved. We believe that this is not only a record with A.M.R.M. but, considering the rocky history of the magazine, and the short working life span of past editors/managers, a considerable achievement. Let's try for 100!! (Ed.)

Last Issue.

Unfortunately we omitted a few details in the last issue that would have helped a few readers.

Firstly, we omitted to indicate that Part 1 of WESTERN DIVISION was in the December 1981 issue of AMRM.

Secondly, in reference to the photographs of the model 'Tumulla' signal box by Lothar Steinke (of Federal Republic of Germany) on page 11 and page 45, we omitted to mention that Lothar built his model using Bob Gallagher's article on Tumulla Signal box (A.M.R.M. July/August 1979) as a guide.

Sorry... Malcolm.

Last issue, for some unexplained reason, in heralding the visit of Malcolm Furlow, we managed to mis-spell his surname on every occasion. We sincerely apologise for the error and any embarrassment caused.

Volume 9 Index.

By the time these notes appear in print the two page index for Volume 9 (Jan/Feb '79 to Nov/Dec '80) will be ready for distribution. Available gratis to any reader, copies will be sent upon request and receipt of a self addressed stamped (9" x 3½") envelope at the magazine post office address.

Club Listing

A.M.R.M. will again publish a list of model railway clubs in the December issue. Clubs wishing to be listed are invited to send in relevant details by 1.10.82., regardless of any previous communication.

Continued on page 47

The above photograph illustrates a section of Malcolm Furlow's Rio Charma and Western layout. In recent years, Malcolm's work has been displayed in most popular (USA) model railroad magazines, and some of his work will be displayed at the Prospect Model Railway Exhibition on the Queen's Birthday Weekend in June.



Sir,
I have recently finished assembling some Rails North Kits, i.e., KLY (2 off) and I can truthfully say, in my opinion, they are first class products. They were a pleasure to assemble and the results were quite rewarding.

The workmanship in other makes, such as Stephen Johnson, TRAX, AR, AMRI and Main West Models is also excellent and a vast improvement on models produced a few years ago. It is now possible for the enthusiast, with a little care, to produce a fleet of vehicles which look like the prototypes they represent.

Not all modellers will agree, but the select few top grade men would probably never need the use of kits, so for the average enthusiast, I am sure they fill the need. One small criticism: the instruction sheets in some kits could be a little more specific, but I have noticed some improvements in this field also.

Thanks to the staff of the magazine and for the Readers Survey — it is nice to have a say in future models.

*Ted Gray
North Rocks 2151*

Sir,

I refer to the "letter" which appeared in the February issue of Mail Mag from Mr Phil Curnow, a member of the magazine staff, regarding the defects in a Rails North HGM/HGX kit he obtained. Publication of the letter has raised a number of implications which we feel justify a response.

Mr Curnow states in his letter "a problem with modelling an Australian railway is that we frequently have to buy without seeing the product" and subsequently Mr Curnow comments on "the kit I purchased in Melbourne". The normal reaction to be expected from a purchaser of such a defective kit would have been the return of the kit or parts complained of to the retailer or distributor rather than spending time and effort stated to correct the purchase. There is no evidence of any attempt by Mr Curnow to refer problems with the kit to either the manufacturer or to Casula Hobbies as the distributor of Rails North products, nor have any queries been referred to us by our Melbourne retail outlets. It would appear therefore that Mr Curnow considered the kit was worthy of completion notwithstanding his complaints.

As a final aside of this particular aspect, I would refer to a letter from a Manufacturer published in the June 1981 Mail Mag which related to a similar set of circumstances raised in a previous letter from a reader which was published in the magazine. The Editorial comment published at the foot of the manufacturer's letter is interesting and is quoted — "Readers should always contact the manufacturer about a problem before making public their complaints, but by the same token, manufacturers should make public their postal address where the complaint may be sent."

Mr Curnow has "begun to wonder whether some kit manufacturers send their best kit for review and then relax their quality control as the production run continues." This particular implication is viewed very seriously and it is considered that this reflects on the integrity of the Manufacturer of the kit, Casula Hobbies as distributor and to some extent the actual reviewer of the kit. The opportunity is therefore taken to reinforce the Editorial comment on the foot of Mr Curnow's letter that "all review samples are random selections from the shelves of Casula Hobbies". This policy applies to all items submitted for review by Casula Hobbies.

Whilst appreciating that all the magazine staff are volunteers I feel that the magazine has a responsibility to both its advertisers and readers alike. I would like to suggest that in future if letters of this nature are received they be referred to the manufacturers or distributor for comment so that a balanced view might appear in the magazine thereby avoiding any misunderstanding.

At Casula Hobbies we have adopted the approach that the best way to market higher quality epoxy kits is to take them out of the post office mailbox and put them on the hobby shop shelves where we believe they belong. In this way purchasers of these kits can inspect completed samples, inspect the components of the kits if they so desire and of course enjoy personal contact with the hobby shop staff particularly in respect of assistance with the construction, painting or any other problems associated with the kits. We would, at this stage like to take the opportunity of thanking the very large

number of purchasers from Casula Hobbies of Rails North, Main West, Stephen Johnson and ABL epoxy kits for demonstrating that this philosophy appears to be correct. The vast majority of model railway people who visit Casula Hobbies are looked on as friends rather than customers and this is an atmosphere we will always endeavour to create.

In spite of all this, each of us are only human and this applies equally so to the manufacturers of the kits that Casula Hobbies carry. It would be particularly naive to suggest that faulty kit components do not, on some occasions, escape the manufacturers' quality control procedures. Where genuine problems of this nature are brought to our attention we have, we believe, in all cases been able to satisfy the problem and arrive at a situation where the customer is contented. It is fair to say that at no time have we ever brushed off anyone who has approached us with a genuine problem related to any of the products retailed or distributed through Casula Hobbies. The point we want to put forward to readers therefore is don't hesitate to contact us if there are problems with our products. We want all our customers to be satisfied as this is the best advertisement we can get.

In conclusion, although this letter was prompted by what we considered to be very serious matters which we felt needed correcting, it is hoped that all can now pursue the serious business of the hobby, that is, deriving the maximum of enjoyment from it. Finally we do, very genuinely, want to acknowledge the tremendous effort that is applied by all involved in the publication of the magazine. To all the lads we say "congratulations", the generally high quality of the magazine reflects this effort and is a credit to you all.

*Joe Callipari,
Casula Hobbies,
Liverpool 2170.*

Mr Callipari has raised a very valid point and in future letters of a complaining nature will only be considered for publication if accompanied with copies of letters where the complaint was taken up direct with the distributor or manufacturer, and no satisfactory reply received. (Editor).

Sir,

Following Chris Thers-Smith's comments in the Nov/Dec issue of the AMRM regarding the "O Gauges", I agree with Chris, that we are a neglected branch of this fascinating hobby.

I look forward to the receipt of the magazine, eagerly seeking plans of NSWGR prototypes, but mostly discover that these are kit bashing in the minor gauge "HO", for something that is available off the shelf of a hobby shop with minimal dimensions indicated.

Granted that "HO" and "N" are the most popular, that I have some plans from our magazine and that I have constructed a few vehicles after converting the scales from "HO" to "O", involving considerable calculations, sincerely hoping that my measurements are reasonably correct.

Also granted that the Editor relies on articles submitted by subscribers. Eventually I will be forwarding details of my equipment and its construction.

I did submit photos of the last journey of 6919 Garrett from Cowra stating that I would do an article on this loco steaming into history but the photos were not suitable for publication, therefore the article was never written.

I have been a subscriber to the AMRM for about nine years and intend to keep my subscription going, but please let's hear about the New South Wales trains with plans for the same.

Thank goodness we still have Col Shepherd and the Model Dockyard for our "O" gauge supplies otherwise we would be a "finished" branch of the hobby.

Finally, I still cannot agree to the term "O" scale it either "O" gauge or 31.75 mm (1¼ inch) and Scale 1 to 43.54 (7 mm = 1 foot).

*R. J. Greenhalgh,
Cowra 2794.*

Sir,

I am fairly new to model railways, but I am on my second layout which is modelled into a small country town with a small station and a couple of small houses. After seeing the picture of CPH and trailer on page 13 in the April edition, I was wondering if Broad Gauge Models or someone else made a model of the VicRail railmotor, which runs to Werribee. There was

another one that used to run on the now closed Healsville line. I don't know of any other. If you know of someone who I don't know of would you please inform me.

On another matter, I have just finished a small hill that was formed by using two pieces of massonite which I shaped for the backing. I fixed them to the board with some glue. Dad had just finished putting in new fly wire into the back door. When he wasn't looking I got the old wire and cut it up. I then glued this to the edge of the massonite with some contact adhesive.

When this was dry I tacked the mesh down onto the board, but not tightly, about every ½ inch. Then I came into some trouble, I couldn't form the hill. So after a short time of think I came onto this great idea of making a hook out of thin wire to slip into the small holes in the mesh. I formed my hook and formed my hill very successfully by hooking the mesh and giving it a slight pull upwards. After doing this I mixed up a small batch of Selleys Spakfilla and gave the mesh a thin coating, when this was dry I lightly sanded it and then coated it with PVC glue and then sprinkled it with Faller 202 which is green coloured sawdust.

Just a quick thank you for giving the plans for the Coburg goods shed and crane that was in April edition as I use the Upfield line fairly frequently and I see this shed every time but I am sorry to say that the crane was removed some time ago so that they could make room for a car park. You can walk along this car park and pick up old rail spikes and lumps of chain, large nuts and bolts that were covered by dirt and the rain has unearthed them. I have built the shed and are about to start the crane, thank you very much and I hope that you continue to give plans for railway buildings.

*R. Newland,
Nth Fawkner 3060.*

As far as we are aware there has been no firm commitment by any manufacturer to produce a VicRail rail motor. (Editor).

Sir,

I was interested to read Mr. Curnow's comments in issue 112 regarding magazine trends. I tend to agree with him but think that before putting pen to paper he should have done more research. It surprises me somewhat to read that "Railroad Model has become more general...". This particular magazine ceased to exist with the May, 1980 issue.

*W. E. Kerr,
Sydney 2001.*

Sir,

I must congratulate you on a fine magazine. The quality, content and consistent high standard is a credit to all concerned with the publication.

I have been purchasing AMRM over the counter since 1966 and I would like to take this opportunity to thank you for the many hours of enjoyment I have received through AMRM.

My kindest regards to all, keep up the good work.
*Graham Edwards
Devon North. 3971*

Sir,

After reading the miriads of letters your magazine receives complaining about the lack of this or too much of that, I have decided it is my turn to put in my two bob's worth.

I am a modeller of SAR narrow gauge in HO_{N3} (letters of ridicule will now be received from HO_{N3½} purists), and I thoroughly enjoy scratch building my rolling stock etc (contrary to a trade advert in your mag, no SAR wide gauge stock is transposable to narrow gauge). But at times I do get frustrated when I see the HO wide gauge market get saturated with brass locos and us modellers of WAGR, QR, TGR, CR, and SAR narrow gauge systems are left with none.

How about a brass model of the SAR 'T' class 4-8-0's, these venerable ladies were also used by the CR and TGR systems. Another sure seller would be a model of the Australian Standard Garratt as used by all the narrow gauge state railway systems, the one exception being the CR. Even Victoria had an example once used on the Australian Portland Cement Company's trackage at Farnsford. Other examples of similar engine designs include the CR's 'Nm' class being identical to the QR's 'C17' class 4-8-0, and the diminutive but lovable SAR 'Y' class 2-6-0 and cousins in use by the CR, WAGR, TGR and Silverton Tramway Company. All of these models could be made to be adaptable to either HO_{N3} or HO_{N3½} by

building the main frames to suit 10.5mm gauge and supply an alternative set of longer axles and bushes to suit 12mm gauge, after all, there is only 0.75mm difference on either side of a main frame between each gauge.

Models of the AD60 Garratt have been designed and manufactured so the techniques and expertise gained from this model could be easily applied to the manufacture of the ASG Garratt with much savings in costs.

So how about a bit of effort from you fellow NG modellers with letters of support, I am sure you are all as keen as I for a manufactured model WE can use, remember, complacency will get us NOTHING. Promoters and importers can also help this great hobby of ours progress the way it deserves to, with a bit of market research to find out who wants that.

W. Hoskins,
Windsor Gardens 5087.

For comment on this letter refer to ARMS NEWS.

Sir,

The underbody detail discussion has been noted with interest. One point has become clear in that the average modeller of Australian prototype has no firm idea of what comprises underbody detail.

Generally, kits in this country do not include longitudinals, intermediates, diagonals, gussets, etc. You might have to run the vehicles over mirrors in order to appreciate the detail, but, such items are an integral part of the vehicle.

Air brake equipment appears to be the concern of most and it is in this sphere that information is decidedly lacking. Plans appearing in AMRM and most line drawings from the various State rail authorities do not include the position of the brake cylinder, triple valve, auxiliary reservoir, dummy cylinder on the slack adjuster. This latter is an observation, not a criticism, and is a state of affairs that appears to be accepted.

I can only comment on NSW vehicles. Four wheel require two sizes of combination brake set. Early vehicles need a third type whilst if room could be found on LCH types, yet a fourth type would be necessary. Bogie goods vehicles are more of a problem, requiring seven types of brake cylinder in diameters of 10, 12, 14, 16 and 18 inches. A number of vehicle codes have the triple valve separate from the brake cylinder.

There are three types of triple valve in different

sizes. Then there is relay equipment fitted as a replacement for the triple valve plus complete relay equipment as fitted to the more modern items of rolling stock. Slack adjusters come in two types and are a quite visible underbody detail. Auxiliary reservoirs come in various lengths, diameters and end configurations. Then there are steps, slide runners, a combination slide runner and step, grade control handles, load compensation mechanisms and release wires.

If underbody detail is to be supplied by the manufacturer as part of the kit and/or as separately available items, to what degree do modellers want accuracy? The range of items necessary is formidable if absolute fidelity is required.

G. Parker,
Regents Park 2143.

Sir,

I have been reading with interest over the past twelve months the various comments on the Australian model railway industry's productions of injection moulded kits of Australian outline rolling stock.

Whilst not desiring to get into any sort of slinging match over the merits of locally produced kits I feel there are a few facts that need pointing out.

Firstly 'Rome wasn't built in a day' and for that matter neither was Athearn, Lima, Rivarossi or any of the other major overseas suppliers. I read with great interest, in the November 1981 issue of Model Railroader, of the history of Athearn from its humble backyard beginning to its modern factory of present day. Well worth reading.

To start, modellers must remember that injection moulded kits of Australian outline by Australian producers is still very much in its infancy.

Secondly, I wonder how many modellers realise just what it costs to produce an injection moulded die. At this point in time toolmakers charge between \$20 and \$30 per hour and it takes about 150 to 160 hours to complete a die. A simple multiplication will tell us the cost of a die. Average \$3875.

Of course this depends on a number of factors related to tool design such as number of cavities, detail required, etc. Having given you a rough idea of die costs how many modellers or prospective manufacturers have that amount to risk.

Now that you have an idea of die cost we can turn our attention to the moulding itself. If the moulder

has modern machines he has only to set up the die and machine, fill the hopper with the appropriate moulding medium, push the button and produce mouldings, but if he hasn't got the latest equipment, injection moulding becomes a very labour intensive operation.

Add to the above costs for patterns, clipping of castings, printing, packaging and shipping and one starts to realise the amount of money tied up in an injection moulded model that you the modeller purchases.

It has been mentioned by readers in your Mailbag and the Readers Survey that they would like to see RTR and Athearn type snap together kits. Let me point out that the price of kits would probably triple with this type of kit.

To produce this type of moulding it would require the use of sliding cores in the die. Sliding cores do two things — 1. Double to treble the cost of the tool; 2. Halve the production rate. This is not an exaggeration but fact gained through 15 years within the industry. To give an example, a simple 4 wheel wagon such as an 'S' truck or 'GY' would require 4 sliding cores to produce — two to mould end detail and two for side detail, with the underframe being moulded in the die block itself.

Any manufacturer wishing to produce this type of kit would end up with a tooling bill in the vicinity of \$12,000. On a run of 2000 mouldings a one piece body would cost \$6 each. Then add to this axle guards, wheels, decals, packaging and shipping the price would jump quite considerably per kit. I used a figure of 2000 as a minimum as most moulders will not consider anything less.

To give an example into this, a moulding customer of mine is interested in producing Australian outline bogies, but now comes the catch. The minimum run would have to be 20,000 to make it economically viable. I ask you this: are there 10,000 wagons sold to use them?

Further to this, it would be economically viable to manufacture ready to run (RTR) wagons with a market as in the United States of 250,000, but to an Australian market of approx. 3000 the costs would be far too high. What I am really saying is that the larger the run the cheaper the item, remembering that there is just as much work in a die to produce 3000 as there is to produce 100,000.

You the modeller must also realise that the manufacturers have to put their money up before goods go on sale to the modelling public, and the money spent is not recovered for 12 to 18 months. I truly believe that the Australian manufacturers have a lot of guts to put up this amount of money into such a small market.

A note of advice to all manufacturers: I can assure you it is well worthwhile engaging a professional tool consultant and have your products and tools designed properly from the word go.

The advice you receive will undoubtedly save you money in the long run. There is a saying within the engineering industry in Australia... 'Do it right once'. If a manufacturer has to take a die back and forth to a toolmaker this will only add to his costs.

This may seem like a plug for my company and in a way it is, but only to help this fledgling industry. Being a tool design engineer and a modeller of Australian prototype I can combine the best of both worlds to the ultimate benefit of OUR local producers.

I hope that the above gives modellers some insight into the perplexities of injection moulding and some of the problems that face the local manufacturer.

Brian Chester,
Tool Design Engineer,
Viewbank 3084.

1982 Toy Fair Report

The 1982 Toy Fair was once again held at the Sydney Showground. There were few surprises but the model railway scene is still quite active, even though some European manufacturers are apparently having their problems.

Southern Models had a varied range on display including Lima models, H & M transformers, controllers, etc. and the X-ACTO range of model tools.

From Lima, the new German Federal Railways high speed train looks very nice and several new items from the British OO range were noted including the Class 87 electric locomotive and DMU railcars. The major surprise was Lima's decision to model the British HST, apparently with correct length coaches. It will represent one of the more recent versions of the HST with the guards compartment in a carriage instead of the locomotive.

No new Australian models were seen but the catalogue shows a 44 class repainted in the SRA's reverse colour scheme, an MFE second class carriage without crown lights and a VR GY wagon. The Indian Pacific carriages will also appear in the dark blue VIA Rail colours of Canada and the South African range is continuing to grow.

Lima have also produced a modular control panel. This will allow points set out on the diagram to be changed when the diagram is run through with an electronic pointer.

Accessory packs for track, signals, etc. will become available this year and greater promotion of Lima products on TV etc. is planned.

Southern Models now distribute the H & M range of control equipment from the UK. The H & M 3000 should soon be available in Australia but an increase in tariff on transformers will make some items dearer.

Toileys had a selection of Mainline models on display. Several new items were noted including the GWR Pannier tank and 2-6-0 tender locomotives in both GWR and BR colour schemes. The detail on

these new productions is remarkable for ready-to-run models. (Reviews will be done as opportunity permits).

The new Mainline catalogue shows further new locomotives including the LNER N2 and Dean goods locomotives from the former Airfix range but many of these items will probably not be seen in Australia until 1983. The passenger rollingstock in the catalogue is a mixture of the former Airfix and the Mainline ranges but the goods rollingstock is much reduced possibly because of the proposed changeover to the former Airfix chassis.

However the majority of models previously available in the Mainline range should still be obtainable in Australia this year.

The Hornby range was displayed by A. S. Scott & Company. New items included the three car DMU, a repainted 9F 2-10-0 locomotive and the Lord of the Isles presentation set. A number of other sets were also on display in very attractive packaging. Several N gauge models were noted under the Hornby/Minitrix brand.

The Hornby catalogue shows new clerestory roofed GWR coaches, several new freight wagons and many new buildings, structures and operating accessories.

AMRI displayed an extensive range of European prototype models and accessories together with American prototype models of Mehanotechnica manufacture.

B. H. Winn displayed the Piko and Berliner Bahnen range of models and Vero structures. Several new items were evident which should be available later in the year.

One of the most satisfying developments in recent years is the improved standard of catalogues. Considerable care has gone into many of the model photos and the prototype information supplied is a most welcome development.

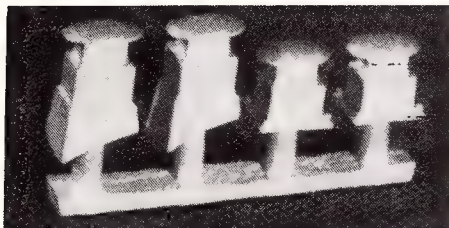
Graham Ahern

COMPETITION

The N.S.W. School Railway Clubs' Association is holding its annual Student Photo Competition which is restricted to school students residing in New South Wales. Membership to N.S.W. S.R.C.A. is not essential.

The subject is 'A rail car or cars in an interesting or scenic location, within New South Wales'. Cash first and second prizes will be awarded in the (1) Colour slide, (2) Colour print or (3) Black and White print section.

Entries close on June 30, 1982. Further details and entry forms can be obtained from N.S.W. S.R.C.A. at PO Box E.24, St. James, 2000. N.S.W.



NSWR Diesel buffers in HO scale by Mansfield Hobbies, 100 Pacific Highway, Waitara, 2077. Price: 75 cents.

These detail items, white metal castings, should be more correctly described as 43 class buffers, for there was only one class of NSW diesel loco that had the distinctive oval shaped individual buffer, but as the 42 class also had four individual buffers these could be used in a kitbash of a 42 class.

The castings, all on the same sprue, are very clean, sharp and true in shape. The rear buffers have the mounting plates including bolt head detail and the front buffers has the curved/angled back surface which is OK for the 43 but would need to be modified for a 42.

While the application of these items is small they are still a valuable contribution for the diesel modeller.

Bob Gallagher

MLR Track Tools for HO gauge: Flex-track Alignment Tool, \$4.85; Track Tool Set, \$18.95, comprising Ballast Spreader (\$10.75 on its own), Parallel Tool, Soldering Tool and Track (rail cutting) Tool. Samples supplied by the importer, Egram Imports, P.O. Box 82, Sutherland, 2232.

These American made tools are designed to make various aspects of tracklaying easier. All are made of a hard plastic, and are also available in N scale for similar prices.

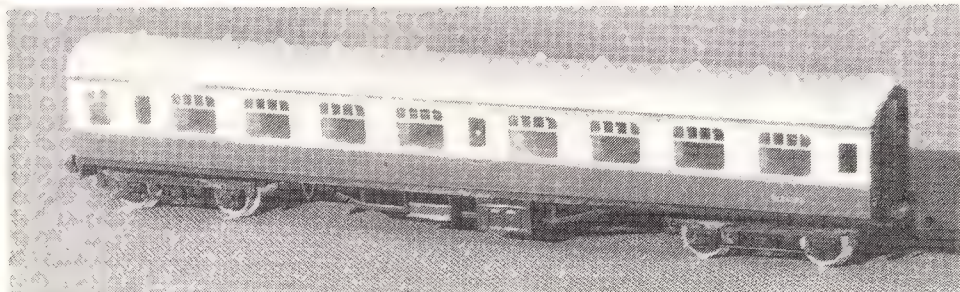
The **Flex-track Alignment Tool** is 20 cm long, with grooves for HO gauge rails along one side and two long slots in the middle. When placed down on the track with the rails in the grooves it holds the track straight. The slots in the middle enable the track to be nailed in this position. Once the first section has been nailed, the tool is slid along the track to the next section. Whilst the grooves are designed for code 100 rail the tool worked just as well on flex track with smaller rail. For modellers wanting to lay a considerable amount of straight track, or for straightening previously curved track, it will prove very useful.

The **Parallel Tool** is a smaller square with two grooves in each side. It is designed for laying one track parallel to another. In use, one groove sits on one rail of the first laid track and the other on one rail of the adjacent track to be laid. This latter is spiked as the tool is moved along. The grooves will space track at either 38 mm (1½") or 51 mm (2") centres. The grooves are designed for code 100 rail but worked just as well with rail sizes down to code 55. This tool would be particularly useful for laying yard track on, say, a prototypically looking slight curve, to ensure each successive track was exactly parallel with the first. If the spacing is what you want this tool will be particularly useful, for those handlaying track as well as flex track users.

The **Soldering Tool** appears to be made of the same plastic as the other tools but is white instead of grey. The two cut-outs on opposite sides give room for a small soldering iron to be touched to the rails for soldering feeder wires, or two rail ends together. The grooves for HO gauge track hold the rails in alignment. Though made for code 100 rail again it worked well on a length of Railcraft code 55 flex track. I even had enough room to place the tip of my Adcola Duo-temp on the inside of the rail for soldering on the side away from view. I am doubtful of the advertiser's claim of it acting as a heat sink too. The plastic material did not seem to absorb any appreciable heat during a special extended test on a piece of code 100 rail but did show signs of softening. The best advice for any soldering of flex track is still to use an iron of adequate heat and do the job quickly.

The **Track Tool** is designed to hold a piece of code 100 flex track firmly while the rails are cut with a razor saw. It worked well on codes 70 and 55 too.

The **Ballast Spreader** is basically a plastic cylinder, with a rotating double base, which one fills with ballast. When placed on the track the base is rotated to align holes through which the ballast falls. Grooves in the base enable the spreader to be slid along the track. Two holes deposit ballast in between the rails



British Rail '63' coach by Graham Farish.

and a hole each side allows it to fall onto the sleeper ends. A rubber-like scraper is fitted to sweep the ballast from the sleeper tops, but only from the area between the rails.

As with the other MLR track components the Ballast Spreader is designed for code 100 track, and works reasonably effectively on Peco track so long as one uses a heavy, free-flowing ballast such as river or coarse beach sand. Cork will not flow through the holes.

The scraper sweeps the sleeper tops between the rails well when the spreader is sitting firmly on the code 100 rail tops. Whilst no scrapers are fitted for the sleeper ends outside the rails only a small deposit was left on the sleeper tops — much the same as is left behind a prototype ballast spreader.

On codes 70 and 55 track the spreader was less effective. The scraper catches in the sleepers unless one end is lifted slightly or it is trimmed to the correct depth. On Shinohara code 70 and Railcraft code 55 track a sizeable line of ballast was left along the sleeper ends; it failing to fall through to the gaps as it did on the code 100 track with thicker sleepers. This necessitated brushing into position afterward which negated the spreader's advantage.

Whilst a heavy ballast is recommended the holes could be enlarged and/or countersunk on the inside for slightly lighter material.

If you have a lot of ballasting to do on code 100 track this tool would be a big time-saver. It is not so suitable for codes 70 and below.

Ross Hurley

British Rail 63 ft corridor coach, 2nd class in N scale by Graham Farish. Sample supplied by Fyren Models, PO Box 88, Ivanhoe, 3079. Price: \$15.60

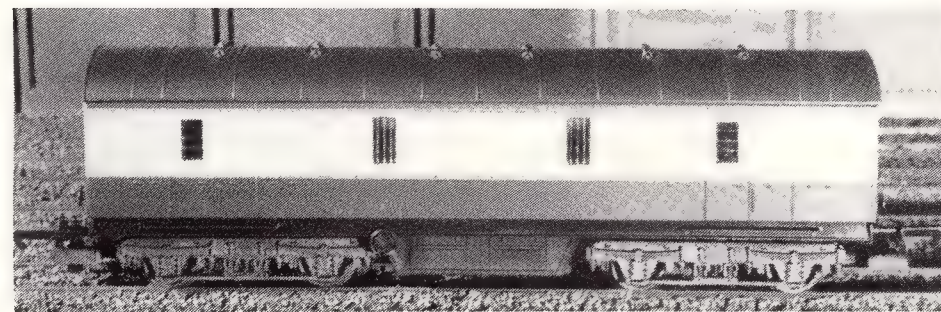
This vehicle is a version of the passenger car commonly found and used in the United Kingdom by British Rail. The car is moulded from polystyrene in such a way that the window area is clear and window ledges fine, the process being paint on clear styrene. Detail is very fine and crisp and includes doors, door handles and hinges, crown lights and underbody gear which includes truss rodging and battery panels. The roof is adorned with half ventilators and piping.

The coach is 131mm long and runs (very freely) on four wheel bogies which are fitted with 6.4mm disc wheels and Rapido couplers. The sample inspected was painted in Crimson and Cream and it is also available in five other colours (LMR maroon, SR mal. green, WR brown and cream, and BR blue and grey). The roof is grey and the underframe (natural) styrene black. As with most items of N scale equipment the paintwork makes this model. There is very little paint overspray and the gold line on the crimson area is very fine. The car has interior detail which includes seating and compartment separations.

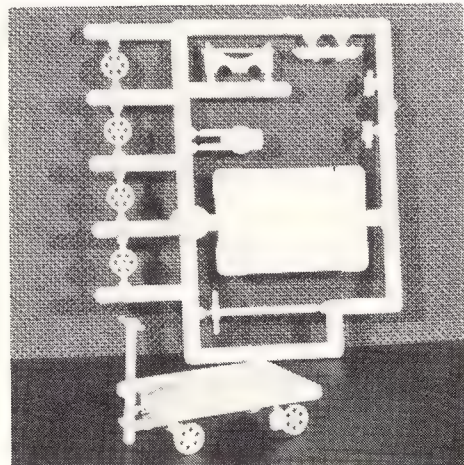
A very fine, free running model for the British enthusiast.

Bob Gallagher

G.W.R. 4 wheel platform trolley kit in 4mm scale by Cooper Craft. Sample supplied by Mail Order



British Rail parcel van by Lima.



Models, 14/29 'Marsden', Great Western Hwy, Parramatta 2150. Price: \$2.40

The trolleys represented by this kit were patterned off some of those in use on the Great Western Railway (U.K.) and the trolley is a 6' x 4' trolley suspended on four (cast metal) wheels, being moved by a handle that also acts as a brake.

The packet comprises three injection moulded plastic sprues, each containing the parts to make a trolley. All components are beautifully detailed and free of flash and moulding blemishes. The individual parts are readily separated from the sprue with a sharp blade and the remainder cleaned off with a file. MEK solvent was used to aid assembly and tweezers were found necessary to put the kit together, the various parts being so tiny, especially the brake shoes.

Platform trolleys of this style are not limited to the GWR, although this model is based on GWR practice, and this trolley would find itself at home on nearly any HO or OO scale layout.

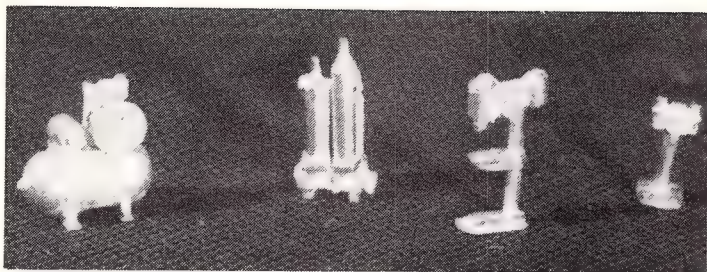
Bob Gallagher

Lima British bogie parcel van — Sample supplied by Southern Model Supplies, Adelaide, SA —RRP \$9.95.

This is a model of the 42' General Utility Van originally built in the 1930's for the LMS. These vehicles, commonly known as GUV's also saw service for many years under British Railways ownership and many are still in use.

The model captures the appearance of the prototype well and is commendably to scale. There is the excellent attention to detail which one has come to expect from Lima today, particularly the underbody items. The truss rods, twin brake cylinders, dynamo and battery box are all represented and the windows feature the outline of bars on the inside.

Parcel vans have long been an integral part of railway operations in Britain and such vehicles could



Machine tools in N scale by Detail Associates.



British Rail Class 37 diesel by Graham Farish.

be seen in all parts of the country. The Lima model is therefore a most useful vehicle for a layout. As it comes in three liveries, LMS maroon, BR crimson and cream and BR blue, this allows quite a period of time to be portrayed.

The model is fitted with the blackened wheels now used by Lima which greatly improves the appearance. All in all, a very nice model.

Graham Ahern

Machine tools in N scale by Detail Associates. Sample supplied by Alice's Hobby Centre, Shop 6, McFarlane St, Merrylands. Price: \$1.50 per pack.

The secret to any good layout is the judicious application of detail. Detail can be either hand-crafted or chosen from some of the wide range of components available on the market. Detail Associates are producing metal castings for the N scale market, these being packaged in a poly bag with a card top.

The castings are very sharp in detail, devoid of any flash and only require the base to be flattened so that the component can be glued in place. While these are designed for N scale, it is possible for some to be used for HO scale as many tools are available in differing sizes and some of these fit into that scope. The details of individual items includes:—

Grinder and stand. A general purpose 6 or 8 inch grinder, mounted on a pedestal base, a machine tool found in many workshops. The casting stands 8 mm tall and distinct detail includes wheel guards, water shelf and floor mounting bolt heads. (Two to a pack.)

Air compressor and tank. Again a rather common item in factories, workshops and even around railway facilities. This unit represents a large tank 9.5 mm long by 4.2 mm diameter (which has mounting feet on the base), upon which sits a single cylinder, electric motor driven compressor. Detail includes compressor air cooling fins, motor and compressor pulleys (sorry, no vee belts) and compressor head detail. This superb casting stands 10 mm high, fine for a large N scale item or a small HO scale compressor (as found in motor garages). (One to a pack.)

Welding cart and tanks. Another rather common item in industry. The casting comprises a two wheel trolley which has two cylinders fixed in place. Overall height is 11.5 mm, which would make it a very large oxy set in N scale, the tanks generally used in Australia being under 1.2 m high. Detail is superb, wheels, bottle tops and securing brackets being distinct. Would be more accurate as an HO scale set. (One to a pack.)

Drill press and stand. Once again a very common item in industry and is of the type that is floor mounted, with the motor/chuck gear mounted at head height while the table is adjustable. No, the table does not move on this item but everything else is there including chuck, pulleys and chuck head handle. (One to a pack.)

A selection of very good detail items that only need painting prior to securing in place.

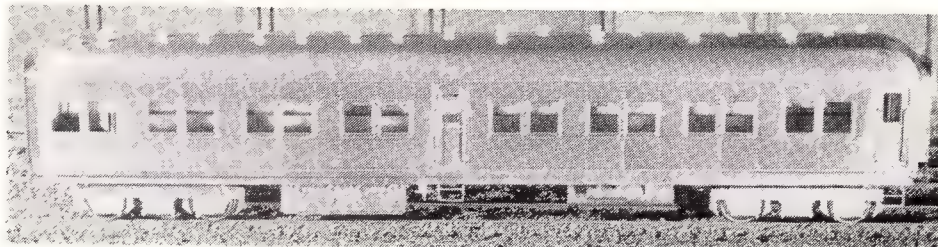
Bob Gallagher.

British Rail Class 37 diesel in N scale by Graham Farish. Sample supplied by Fyben Models, P.O. Box 88, Ivanhoe, 3079. Price: \$117.00.

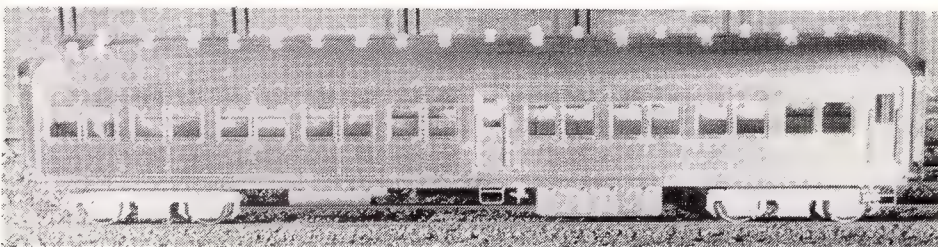
The Class 37 diesel is another of the heavy duty diesels at present employed on the British Rail network. This model is the Class 37 body profile fitted to the Graham Farish class 47 mechanism which is a metal chassis containing the motor and driving two six wheel trucks, each axle being driven.

The detail and paint application on this model is up to the very high standard set and maintained by Graham Farish, with no evidence of flaws. Fitted with Rapido couplers the model is 128.8 mm long and, while having a good turn of speed, can also run very slowly (using a transistor controller), and has a very good hauling capacity.

There is little doubt that this loco could become a workhorse on any modern British outline layout and the provision of the model in two liveries (BR blue and



NSWGR 'BS' class passenger car by Samhongs. a.



NSWGR 'FS' class passenger car by Samhongs. a.

BR green) enables the modeller to select a preference, or both.

A fine powerful loco, that runs and tracks very well.
Bob Gallagher

NSWGR BS/FS passenger car. HO scale ready to run in brass. Manufactured in Korea by Samhongs. Samples purchased from Berg's Hobbies, Church Street, Parramatta. Price: \$99.95.

The 35 BS and 85 FS cars in the NSWGR were constructed by Clyde Engineering Company between 1935 and 1937. These 65' cars are timber framed, sheathed in steel and on a steel underframe. The BS, first class cars are numbered 2030-34, 2076-80 and 2152-76. These numbers are now being changed to free the 2000 series for the XPT. The FS, second and economy class, cars are numbered 2100-29, 2081-2104, 2110-11 and 2112-51. Likewise these cars are being renumbered. Twelve BS cars were converted to RBS (9) and BSR (3) by replacing two or three compartments by a buffet section. Additionally several BS/FS cars have been fitted for electrical heating and recoded XBS/XFS/EFS. Further, a number have been converted to IFS supplementary interurban cars, several sold to Hammersley Iron and the ANR and several have passed to various enthusiast railways.

The BS seats 42 in seven compartments and the FS seats 64 in eight compartments. They were introduced to replace the dogbox (BX/LFX) cars on country mails but were and still are used to make up the consist of any locomotive hauled train. They have appeared in all the various colour schemes of the NSWGR over the years.

The models under review are fabricated from etched brass sheet, lost was brass castings and turnings. Like all brass rolling stock they are heavy at approx. 375 grammes but roll freely on their brass bogies. Both wheels on each axle are insulated; good for reverse loops, not so if you wish to fit internal lighting. Dimensionally they are more than tolerable and surface detail is quite acceptable. The etched detail is fine and will require spray painting to show to its best.

The roof ventilators, a feature of the model, are correctly positioned. However the join of the main roof to the canopy end is a little pronounced and could require filling with either solder or putty. The diaphragms are in brass, lack detail and springs and could well be replaced with rubber ones. The under-floor detail is adequate but at \$100 it could have been more complete; e.g. a triple valve, flexible toilet discharge, generator, etc. Also, the steps at the ends of the cars are a compromise to allow bogie swing.

There is no internal detail and a few modifications to the floor mounting will be necessary to allow

spraying inside the body. Painted, the model looks every bit a BS or FS respectively and one of each plus a Lima TAM and Workshop 5 van is a 'good load'.
Expensive items or not, they are good models.

Phil Collins

Bush Tram to the Mill by Bob Stott, published by Southern Press Ltd. Available from ARHS NSW Division, PO Box E129, St James 2000. Price: \$4.50.

The timber industry is in itself a very interesting subject, and the use of railways (tramways) to move the timber is just an added bonus to the railway enthusiast. Bob Stott, the author of this 64 page booklet, is (in New Zealand) a noted modeller of the bush tram, a photo of part of his 1/64 scale layout appearing in the book.

To build his layout and his models Bob has collected numerous photographs that illustrate the variety of locomotives and rolling stock, as well as the numerous haulers and lifting devices that are so fascinating. Many of the collected photos appear in the book, reprinted clearly in black and white.

The first section of the book deals with the bush tram, a subject covered in 1973 by another book (now out of print) entitled 'Rails Through the Bush'. Although Bob Stott was also the author, he has used new photos to illustrate the subject in the latter book.

The second part of the book describes and illustrates the timber mills and the various paraphernalia. The photographs are all from scenes in New Zealand.

Modellers interested in timber trams or light railways will find this book fascinating, and a tremendous guide to get the 'feel' of a timber railway. The cover photo, in colour, of a geared steam loco on a timber bridge is just a glimpse of the delights inside.

Bob Gallagher

V.R. 'VP 103' louvre van kit in HO scale by Broad Gauge Bodies, P.O. Box 6, Marden 5070. Price \$7.15.

VP 103, was involved in an accident and instead of being condemned it was rebuilt (with parts on hand) and reissued to traffic in 1975. The extensive rebuild saw the van reappear with 'BD' pattern doors and a 'VSX' (high elliptical) roof, making the van totally different in appearance to other 'VP' louvre vans.

This kit is based on VP 103 as rebuilt and the (acknowledged) poor quality photo in the instruction sheet gives the assembler some idea of the van being modelled.

As supplied, in a poly bag with a card top, the kit comprises polyester castings for the sides, ends, floor, roof ends, and timber shapes for the roof and the centre sill and wire for the handrails and underbody detailing. A set of decals, specially

prepared for VP 103, accompany the kit along with two pages of assembly instructions.

The components were a little sticky after unpacking and a suggestion from a previous (BGB) kit was followed where all polyester casting parts were sprayed with paint prior to cleaning and assembly.

The parts were relatively free of flash and were flat and square. There was no visible casting defects or flaws. Detail is to the usual (BGB) standard and includes door latches and louvres. Detail is distinctly reproduced, and the parts go together without any problem.

The instruction sheets amply covered all steps of assembly including the adding of decals, and the method of shortening and adding the roof so that future damage will not occur.

Following the instructions, and adding Kadee No. 5 couplers and the recommended bogies, a very nice model can be produced to the quality expected from this manufacturer.

Graham Ball

Detailing items in HO scale by F & G Models, 47 Forest Park Rd., Upwey 3158. Price in text.

The detailing components covered by this review are of items that can be used to detail around the station yard, or in a local industry such as a motor garage, or on the goods shed dock or even in an open wagon. Some parts are pre-painted in appropriate colours and others are clean metal castings. All come packaged in a poly bag with a card top, and the set number printed on the flap identifies the components.

Set. G1 — (\$1.55) Oxy and Acetylene set comprises four painted bottles, two oxy and two acetylene. All are painted in appropriate colours with the gauge being a different colour to the bottles.

Set. G3 — (\$2.09) Grain sacks. This pack comprises eight metal castings consisting of five single sacks, a stack of two, three and four. They are 19mm x 6mm and of appropriate shape. The sack casing is textured and the stack of sacks are, appropriately, unevenly stacked.

Set. G8 — (\$2.09) Grain sacks. This pack comprises eight metal castings consisting of five single sacks, a stack of two, three and four. They are 19mm x 6mm and of appropriate shape. The sack casing is textured and the stack of sacks are, appropriately, unevenly stacked.

Set. G8 — (\$2.05) Drums. This pack contains six pre-painted (red) drums in three sizes. There are two 11mm high, two 8mm high and two 6mm high, all in differing diameters. The drums are ribbed but lack the bung detail, as used to open and empty the drums of its liquid content.

Set. G13 — (\$1.50) Petrol engine. This pack contains a single engine (painted) and the exhaust muffler and pipe section (unpainted). The engine is large in size, 21.5mm in length (over gearbox), stands 12mm high and has a maximum width of 9mm over flywheel. The detail on the metal casting is superb, so good in fact that one could challenge that it is a petrol engine, the intake and exhaust being more like many stationary diesel engines. Detail includes starter motor, generator/alternator, tappet cover, flywheel casing and gear box. An ideal load in an open wagon or used as a motive force for an electric generator (housed in an old open shed — open so that the detail can be observed).

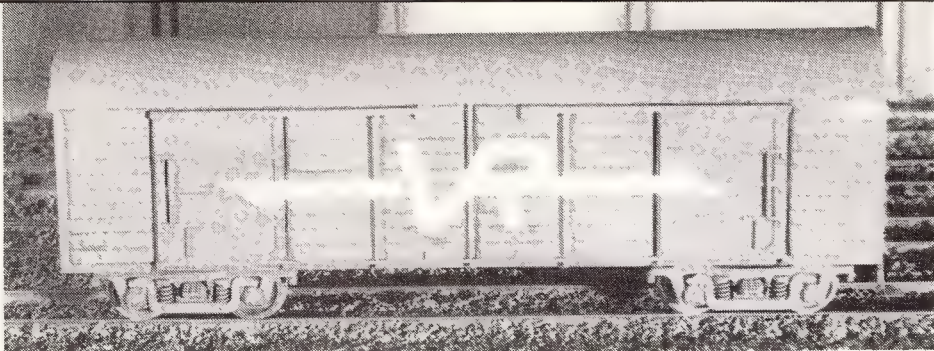
Set. G15 — (\$1.30) Crates. This pack consists of four metal castings, unpainted, and requiring just a little cleaning up on the mould separation mark. The castings consist of crates (6mm x 4.5mm x 3mm) that are stacked in piles of 1, 2, 3 and 4. The top crate of each pile is open and detailed so that it represents some style of commodity or other such as fruit or vegetables. These crates would be ideal (when painted) to be stacked on a dock or on the station platform waiting to be loaded into a van. A mounting sprue is provided for this task.

Bob Gallagher

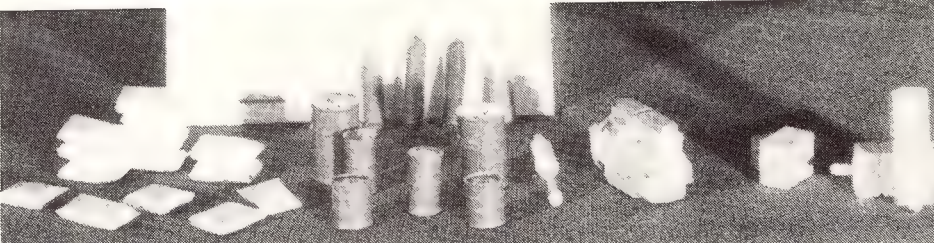
Commonwealth Railways (Australian National) 'CL' class diesel loco kit in HO scale by Main West Models. Sample from Casula Hobbies, Phoenix Plaza, Macquarie Street, Liverpool. 2170. Price \$29.50

The 'CL' class was built by Clyde Engineering and delivered to the then Commonwealth Railways in 1970, when CL1 was named 'John Gorton' in honour of the then Prime Minister. In all 17 (CL1 to CL17) of the 3000 HP (2240 kW) units were built and have seen service on the standard gauge system between Broken Hill and Kalgoorlie (W.A.). In 1975, CL1 was a visitor to N.S.W., heading the Indian Pacific into Sydney, and trialled the main south from Sydney to Albury for the then N.S.W. P.T.C.

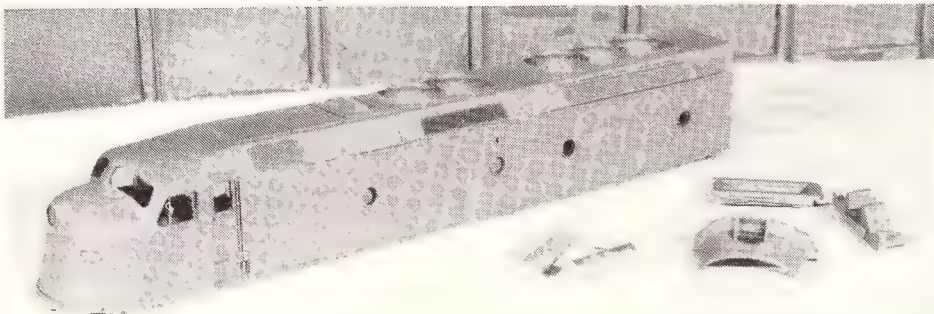
The kit is supplied in a poly bag with a card top and comprises epoxy castings for a complete one piece body shell, front pilot, rear pilot and rear door



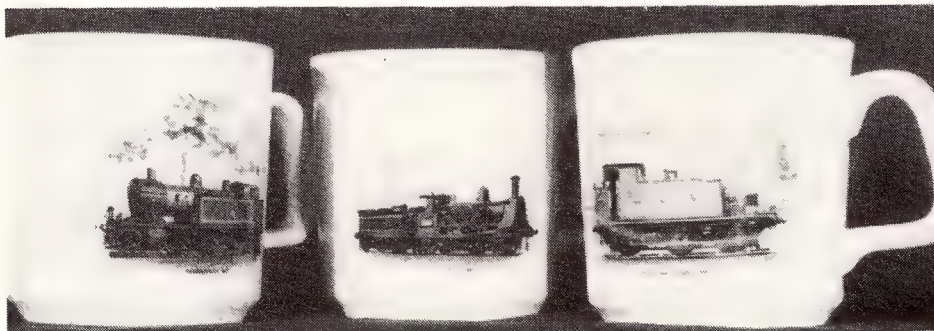
VR 'VP 103' louver van by Broad Gauge Bodies.



Sacks, drums, engine, crates and oxy cylinders all in HO scale by F & G.



AN 'CL' class diesel kit by Main West Models.



diaphragm and metal castings for the two air tanks. An assembly instruction sheet and two sheets of decals complete the kit. An Athearn F45 mechanism is required as an additional extra (approx. cost \$32.00).

The one piece body shell is the basis of this kit and it has been cast in epoxy, from the master made by ATM. The casting is free of blow holes and there is only slight evidence of a casting defect around the number board. Sides are of uniform thickness and only a little flash is evident in the window and porthole spaces. There is some heavy flash on the lower edge, but the removal of this is covered in the instructions.

The resemblance to the prototype is unmistakable, and overall dimensions are a shade over in length and width. Overall the detail standard is acceptable, although a little body filler will be required on the left side to fill a gap between the side and the roof. Front and rear pilots fit without any problems.

The power basis for this model is an Athearn F45 and its chassis has to be modified to fit the CL. Full details for this task are included in the instructions. The task appears not too difficult and would be a good beginning for loco converting/kit bashing.

Information on the instruction sheet is sufficient to build the kit and modellers are referred to the July/August 1977 issue of AMRM for detailing reference and other information. An acceptable model can be built from this kit but it is the paint job which will make or break the model. There is no reference to painting in the instructions, but a method of painting and lining a 'CL' is covered by Neil Graham in his article 'Comrails Kitbash' in the July/August 1977 issue of AMRM.

Bob Gallagher

Ceramic Coffee mugs with locomotive prints by Johnson of Australia. Available from The Chatterbox Coffee House, 1 Moree Street, Gordon 2072. Price: \$8.75 a set of four.

Coffee mugs are an essential item to finish off a meeting with, filled with hot coffee or tea of course.

These mugs have been made in Australia by Johnson, and are quality ceramic tableware. Each mug has an English locomotive reproduced on the side under the glazing finish. The locomotive include an 1813 Puffing Billy, 1847 tender loco Cornwall, an 1890 blue GER tank loco and a 1907 green tank loco.

All prints have been reproduced from paintings and some backscene is included. The mugs are white and have a sturdy handle affixed. They are gift packed, or available individually.

Bob Gallagher

NSWR X200 rail tractor kit in HO scale by Stephen Johnson Models. Sample obtained from Casula Hobbies, Phoenix Plaza, Macquarie St., Liverpool. 2170. Price: \$25.00

The X200 class was built by the Department of Railways workshops at Chullora and was first introduced into service in December 1963. There are two groups (styles) in this class and the model represents the second group, numbering X207 to X218.

This type of small shunting locomotive was classified by the NSW as a 'Rail Tractor', a description belied by both appearance and power. Many surplus locomotive components, including axle sets from AD60 class bogies, were used in construction. Both types were painted in the NSW Indian Red livery and lined in yellow. (Some units have been painted in yellow and these details will be



NSWR X200 class by Stephen Johnson Models.



Dutch diesel shunter by Roco.

covered in a future article on the rail tractors in AMRM. Ed.)

The kit is supplied in a cardboard box and is accompanied by a sheet of assembly instructions which has a photo of the tractor clearly displayed. The various components for the body have been cast in grey epoxy, and the kit included the wire from which the handrails were to be formed, with the aid of a soldering jig (which was part of the kit). The kit is designed to be fitted to a 'SPUD' power unit which has to be purchased as an extra (approx. \$25).

Detail on the body components which is to a high standard includes the many vents in the hood doors and the observant eye can clearly make out the door hinges. There was a little flash on the kit, especially around the windows which requires extra special care so that the window parts cannot be broken.

While the kit was relatively easy to assemble there were a few points that could be attended to during construction. When attaching the body to the spud, drill and tap the holes rather than fitting screws and nuts; because the cab is very weak (due to very fine parts) it is advisable to add strengthening pieces, and this can be achieved after the cab is formed into a box, using styrene sheet as gussets across the floor (but still leaving clearance for the motor). The coupler retaining screws were also used to hold the body shell in place (which allows the body to be removed for motor servicing, and it is easier to paint and line the body). It is also advisable to form the handrail with the horizontal sections in one piece and the vertical pieces in sections. This will allow the handrails to be bent without the fear of breaking a joint.

Assembled, this kit makes up into a very fine model, which is dimensionally accurate and not too hard to assemble, although the ability to solder is essential. The model as a shunting tractor, without any extra weight, can readily haul 2 or 3 bogie wagons with ease (even 6 at a pinch) around the yard. With added weight it can haul more, there being space in the cab for additional weight. With the 'Spud' drive unit the model has the X200 characteristic 'wobble'.

A very fine model.

Es Davies

Dutch Railways 0-6-0 Diesel by Roco. Samples obtained by Viaduct Hobbies and The Engine Shed, Melbourne. Recommended Retail \$62.50

In 1945 ten English Electric diesel shunting locomotives were brought to the Netherlands. Numbered 501 to 510 these locomotives were so successful that three further batches were ordered — 511 to 545, 601 to 665, and 701 to 715.

By mid 1981 a total of 87 of these units were still in use by the Dutch Railways.

The review sample is a model of one of the second batch, number 523, and is in the dark green colours of the Dutch Railways. Moulding detail is finely executed to include rivets and brake details. A choice of three types of coupling come with the model —

Lima, Fleischmann, and an "X2F" type. The Lima type was fitted. Two directional headlights are fitted at each end.

Straight from the box, the loco started at 3 volts (.16 amp) and reached top speed at 14 volts (.25 amp). The headlights came on at 7-8 volts, fine control was available over the 3 to 12 volt range, with smooth shunting speed available in the 3 to 5 volt range.

The review sample successfully pushed a rake of 4 wheel stock through reverse curves on Peco track and points. European flanges do however cause problems on Shinohara code 70 track.

Double heading with Athearn and Atlas units was possible but not with a Lima "S" class locomotive.

Victorian modellers will welcome this loco as an ideal conversion to an "F" class diesel. This model is the correct series for the V.R. units. All tool boxes and other standard equipment is in the correct positions.

Dimensions are correct. However the side rods extend a long way out from the side of the loco, 1 foot 6 inches from the outside frames. The cranks will have to be modified to allow for the fitting of shunters steps. The louvers at the front are the short European style and will have to be lengthened, along with the fitting of appropriate headlights, to produce a VR Locomotive.

(A prototype article is planned for a future issue of AMRM along with modelling articles in 'N' and 'HO' — ED)

Phil Jeffery



NSWR 42 class dress up kit in HO scale by Main West Models. Sample from Casula Hobbies, Phoenix Plaza, Macquarie Street, Liverpool. 2170. Price \$5.00

This kit is designed as an additive for the Lima 42 class model, which is in reality a V.R. 'S' class painted up as a N.S.W.R. 42 class. The kit comprises front and rear pilots, buffers and brass ladder section. The cast components are of epoxy material. It is also possible to obtain the kit with the correct bogie sideframes (at a higher price), but this review is limited to the basic dress-up kit only.

The components, which are packaged in a poly bag, are accompanied by a detailed instruction leaflet which describes, in full, assisted by diagrams, the method of attachment of the pilots and buffers. The instructions also describe how to add Kadee couplers, and (for the adventurous) also how to attend to other modifications that would make the 42 class more prototypically correct.

The task of adding the pilots is not difficult, and could be accomplished without requiring a high

level of skill. As supplied the components are free of defects and fit in place on the model, raising the detail standard of the 42 class. If adding the pilots only, there is no real need to repaint the model.

Bob Gallagher



Decal for SAR (circa 1964-67) in HO scale by Broad Gauge Bodies, PO Box 6 Marden 5070. Price: \$1.65.

The logo (set 29/C2) depicted in this decal pack is that used by the South Australian Railways during the period of 1964 and 1967 on some vehicle. Although it was replaced by the now more familiar 'Piping Shrike' emblem in 1967, the 'SA' logo continued to be sighted on wagons until the individual wagons were repaired. The logo was only in red and was sighted on ELX, OX, OAX, OMX, FB and some bogies stock wagons.

There are 24 emblems on the decal sheet, which is accompanied with an illustrated sheet on how and where to apply the logo on the wagons. The individual emblem measures 9mm x 7mm is printed in red and there is sufficient space on the sheet to easily separate the individual emblem. Printed on clear film the decal readily slides off the backing paper and is easy to work into place without breaking up.

Another fine decal for the period modeller.

Bob Gallagher.

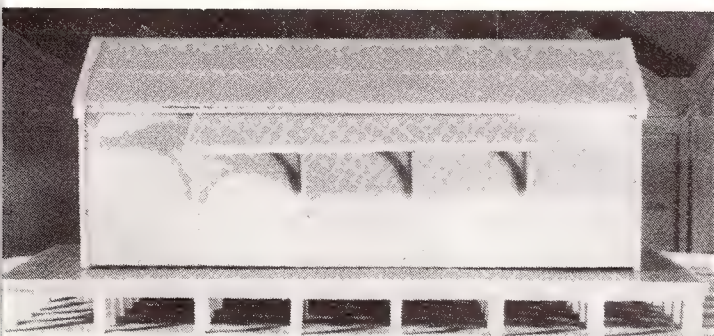
Victorian (Railways) goods shed kit in HO scale by Broad Gauge Bodies. Price: \$16.95.

Timber goods sheds found in south west Victoria, in particular the goods shed at Condah, are the prototype for this kit. These sheds were built during the 1870's and were built using timber walls, corrugated iron roofs and a timber goods platform.

The kit comes packed in a sturdy cardboard box and parts include, sides, ends, roof, canopy roof and supports, goods platform and stumps (all these parts are castings), timber to form a barge board and wire to form downpipes and assembly instructions. All castings are made from polyester, have crisp detail and are generally free from any flash and blemishes. The quality of the castings is good.

These pages of instructions are included in the kit. Photos of the prototype shed are included in the instructions and show details of guttering and downpipes. These photos are a great help to the kit builder. Easy to follow step by step assembly instructions and hints, exploded drawings, painting instructions and a prototype location sketch are included in the instructions.

Following the instructions the model was assembled quickly and easily using the recommended super glues. When assembled the shed measured 50' x 21' and the goods platform 61' x 31'.



Front and rear aspect of the Condah goods shed by Broad Gauge Bodies.

The assembled platform is designed so that the modeller can locate the goods shed on the platform where required.

Completed the shed captures the look of a timber goods shed found in most Australian states. This is a good model and would not look out of place on any Australian prototype layout.

Ian Thorpe



Open wagon emblems (Large), Open wagon emblems (Small), in HO scale. Manufactured by Broad Gauge Bodies, PO Box 6, Marden 5070. Price: \$1.00 per sheet per size.

Victorian Railways' freight vehicles are well distinguished by their somewhat large but well defined logo. It seems that the larger the surface area the larger the logo. Two samples of decals are herewith, a large emblem for open wagons (Cat. 27), and a small emblem for open wagons (Cat. 28). The Large sheet contains 6 logos, whilst the Small sheet contains 10. All are in white.

The decals transpose well from the backing sheet to the model. A gloss, or semi-gloss surface is recommended. When dry, a coat of Decal Set or Solva Set, followed (when again dry) by a coat of clear enamel or varnish locks the decal on. A good product.

Allan Brown.

Mercedes van in HO scale by Herpa. Available from The Engine Shed, 5 Carrington Street, Box Hill 3128. Price: \$5.35.

This model, sold as (806 390) DB Lkw Kasten Spedition, is typical of the big truck power seen on our roads today. The model 101 mm long, 29 mm wide and 44.5 mm high. The box is 81 mm long, 29 mm wide and 29 mm high. The model is painted yellow and the chassis black.

It has all the features of a Herpa model, superb detail which includes full chassis detail, cab interior, brand on tyres and an additional pack which allows the modeller to add rear vision mirrors and a wind deflector on the cab roof.

A superb model.

Bob Gallagher

Kenworth Dump truck in HO scale by Herpa. Available from The Engine Shed, 5 Carrington St., Box Hill 3128. Price: \$5.35.

Dump trucks of all sizes are used to move bulk products. This model represents the big power in dump trucks using the roads today. The model is 100 mm long, 29 mm wide and is 39 mm to the top of the exhausts pipes. The tray is 60 mm long, 25 mm wide and has 7.5 mm high sides.

The tray on this model does lift and the end flap does open. Unlike many other Herpa models this one is made in Hong Kong. Detail is to a high standard and includes full chassis and underbody and cab interior. Some compromise has been made with the horns on the cab roof, which have only been produced in half section.

Still, painted in red, with a black chassis and grey tray, a fine model.

Bob Gallagher

NSWR BE/E 40ft flat wagon kit in HO scale by Rails North Models. Available from Casula Hobbies, Phoenix Plaza, Elizabeth Street, Liverpool. 2170. Price \$11.95

On the NSWR the 40ft flat wagon has been both many in number and of differing classes. The basic wagon has been used as an underframe for numerous wagons, and although there has been (detail) differences most of the wagons have been of the 40ft x 9ft size. They are of fabricated steel construction, the various components being riveted together. The deck of the wagon is of timber planks across the wagon. Some classes were fitted with deck bolsters, and others with side stanchions.

In 1949 there were 2 classes of 40ft bogie flats, the 'E' and the 'ME' class (the 'E' being fitted with four deck bolsters) constituting 336 units on the books. But by 1969, after some had been used for 'MLV' louvre vans, there were only 8 in service ('E' and 'BE') as flat wagons. The basic detail difference between and 'E' and a 'BE' is the style of truss rod attachment, the 'BE' style being smaller overall to that of the 'E' style. Most 'BE' wagons were fitted with four body



Mercedes van and Kenworth Dump truck by Herpa.



40ft flag wagon (NSWR E/BE) in HO scale by Rails North Models.

bolsters and then a semi cylindrical water tank, as used for water tanks out west, and for departmental usage.

Road numbers for the flat wagons include:— 'E' 3690, 11001, 20746, 21039 and 21053; 'BE' (ex 'ME') 2852, 19385, 19397 and 20768.

The kit as supplied in a poly bag with a card top, comprises grey epoxy castings for the underframe, deck, queen posts, brake/air cylinders and yard brake handles. Wire is supplied for fitting yard brake, release and coupler release, with square wire for the truss rods. Two steel wood screws are supplied for bogie attachment and the components are accompanied with an assembly instruction leaflet which covers step by step method of assembly.

All components were flat, of uniform thickness and free of casting defects. The underside of the deck and the top side of the underframe have been cast flat (for ease of assembly) and a little flash was evident here but was readily removed with a small flat file. On the review sample some flash had encroached onto the face of the side sill and was removed with wet and dry paper, without damaging detail.

The detail on the components is up to the high standard for this manufacturer and included scribed decking, end sill detail and coupler release brackets. Following the instruction sheet the kit is easily assembled although, to save damaging the fine deck, care should be taken when adding the bogies with the screws provided, else add the bogies before adding the deck. Repco Woodhill Super glue secured all components successfully.

Fully assembled, with the addition of Kadee No. 5 couplers and Roundhouse Archbar bogies (fitted with Northyard 10.5mm spoked wheels), the wagon measures up to be slightly over the correct size. One bogie bolster required building up for the correct deck level, and at this the Kadee No. 5's were at correct height. The wagon ran level and tracked well.

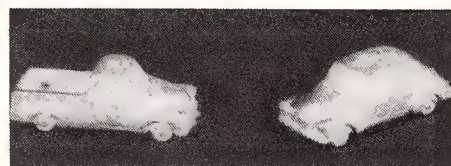
This was an easy kit to assemble (2-3 hours) and was accomplished without the need for too much skill. The most difficult assembly procedure was the bending and fitting of the truss rods. Possibly the provision of a truss rod template on the assembly instructions would have helped. A minor problem however is that the queen posts and the truss rod anchorage positions are not equidistant from each other, and care should be taken to ensure that the individual posts and securing holes line up with each other, otherwise it will be necessary to bend the truss rods to suit the situation. Fully assembled the model weighs 1.75 ounces (49.6 grams).

The kit makes up into an acceptable bogie flat wagon that could be used empty or with a load attached and it could be the basis for a few other goods wagons.

Bob Gallagher

Holden 'FX' utility and sedan in N scale by Weico Models, P.O. Box 283, Reservoir, 3073. Price \$2.95 pack of 3. (1 style to a pack)

There is little need to describe, to Australians, what a Holden is. as the TV advert once said... "Football, meat pies, kangaroos and Holden Cars". The name



HOLDEN is synonymous with Australia, and since 1950 there have been Holdens all over this vast country.

The 'FX' Holden is but one style on the General Motors' built automobile, the style being released in the late 1940's. The models are one piece metal castings that are clean of flash and only show a little evidence of the mould separation line. The best method for cleaning up metal castings is with a suede shoe brush, used vigorously. A good shine appears, and paint can be applied.

The models have a wheelbase of 19.25mm, a track of 11mm, width of 12mm, height of 11mm and overall length of 31mm. The detail is crisp and clean and includes grill, grill emblem, door handles, head and tail lights as well as clear division marks for doors and windows. The models unmistakably represent the prototype and would find a place on any Australian (modern era) layout.

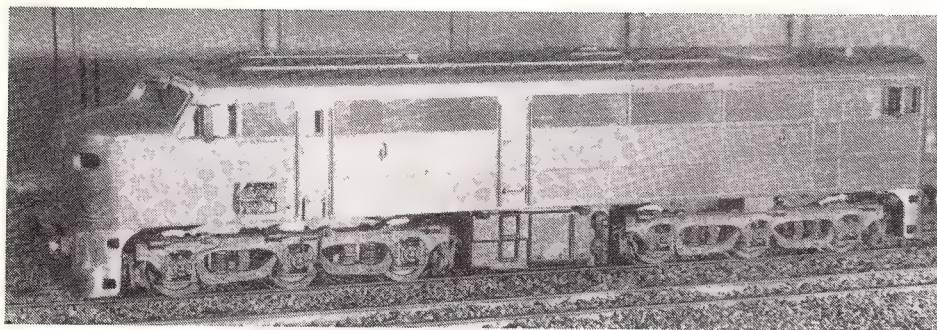
Bob Gallagher

STEEL and RAILS in Newcastle, by Keith McDonald. Published by Light Railway Research Society of Australia. Available from Light Railway Research Society of Australia, P.O. Box 21, Surry Hills, Victoria, and A.R.H.S. (N.S.W. Division), P.O. Box E129, St. James. 2000. Price \$11.95 plus postage.

Light Railway Research Society of Australia's latest publication is a 210 x 300mm 118 page history of BHP's Newcastle Steel complex and its attendant railway network. The concise — but adequate — corporate history covers the building and expansion of the Newcastle venture. Methods of Steel making are explained, supported by a glossary of terms, which give the reader some insight into this fascinating and important industry.

The main portion of this book is given over to the railway network and is broken down into 3 areas, these being:— The Railways, Locomotives and Rolling Stock. The railways are covered in detail and it's not surprising that this efficiently run system moves about 20 million tons of material into, around and out of BHP's Newcastle works. The heaviest rail in use in Australia is found on this system in the area serving the Blast furnaces, it is in fact, crane rail, and is 147 pounds per yard. The Pilbara region of Australia is were the heaviest rail in normal use — 137 pounds per yard — is found.

Each loco on class of loco is presented in pictures and a line drawing is given, showing all relevant data. The history of these locos reveals that not only did BHP buy locos but they also built them as well in the steam era. Rebuilding was undertaken to not only improve the locos but to make them more suitable for operation on the system. Two examples of drastic



Lima 44 class fitted with Craftsman Models' dress-up kit.

rebuilding are No. 26. This loco started life as 2415 a 2-6-0 tender loco built by Dubbs and rebuilt by BHP into an O-6-OT. No. 29 was purchased from the South Maitland Railways and rebuilt from an O-8-2T to an O-6-OT. The only loco not given the full treatment is the class of four electric Coke Quench Can Locomotives. Only a line drawing of this interesting looking loco is presented in with the rolling stock drawings.

While the LRRSA states that only a selection of rolling stock plans have been reproduced there are 139 of them. No scale is mentioned — subsequent enquiries revealed that the plans are 2mm to the foot — and the attendant listing tends to be tedious reading. Grouping the wagons by class would have eliminated the duplicated data and made more interesting reading.

This is a very good book and is the first of a series on BHP's rail networks around Australia.

Ian Wright

44 class diesel detailing kit, in HO scale. Sample from Craftsman Models, 29 Otford Rd., Helensburgh. 2508. Price \$5.00 (plus postage).

This kit consists of a piece of .006" brass sheet 58mm x 54mm on which has been chemically etched 1 front and 1 rear cowcatcher, 2 staff exchanger shields, 4 side mirrors and brackets, and windscreen wipers. Each part has been etched through around its outline although still held on the basic sheet by small tabs. These are simple to cut through by using a fine pair of tin snips, or even scissors. Instructions are easy to follow, and contain all relevant diagrams.

To obtain the roll on the front cowcatcher I placed it face down on a thick note pad and rolled a piece of 1/2" rubber over it, using a fair amount of downward pressure. The note pad acted as a pressure pad, promoting a good uniform curve.

All components adhere well to the Lima body with either one of the super glues or Araldite. The wipers must be bent through 90° and it is suggested in the instructions that they be filled to give a bit of 'body'.

There is no doubt that these components improve the appearance of the 44 class, and presumably so with the SAR 930 class.

Allan Brown



Decals for SAR tarpaulins (Set 21) in HO scale by Broad Gauge Bodies. Price: \$1.00.

Tarpaulins are used by the railway systems to cover the goods carried in open wagons. To maintain ownership the tarpaulins are marked so that ownership is unmistakable. The South Australian Railway system used the standard piping shrike emblem, some large crosses and a tarpaulin number for identification.

The decals sheets (2) are enclosed in a poly bag with a card top. Inside the card top are the details of layout for the SAR tarpaulins, and on the back of the cards is the method of application.

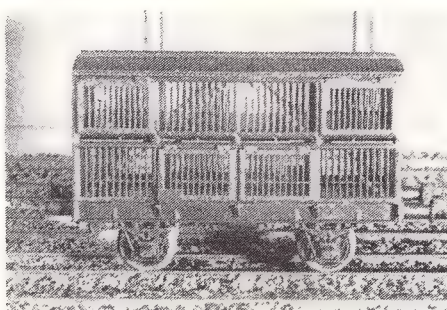
The logos, crosses and numbers are clearly reproduced yellow on a white paper. Application is straightforward. It is however necessary to separate the individual numbers to make up a tarpaulin number, but the manufacturer has supplied a given line of numbers (printed three times to a sheet) that could be broken up to make up at least five tarpaulins.

These decals are for detailing the 31' x 14'6" green tarpaulin and are a fine product.

Bob Gallagher

NSWGR 'GSV' four wheel sheep van kit in HO scale by CAMCO, PO Box 3, Moorebank 2170. Price: \$6.95

In 1948, the GSV sheep van totalled 1,793 units,



the third most numerous wagon on the NSWGR (at that stage there were 10,084 'S' wagons and 2,844 'U' wagons on the books). At this time there were two styles of underframes in use, a timber style and a steel style. The steel underframe was the standard unit that had been manufactured by Commonwealth Engineering, and other contractors in the mid 1940's. The timber bodies were added by the railway workshops. The vans were used to carry sheep, each van having a capacity of 100 sheep or six tons. The vans were also used to carry pigs and goats.

This kit is the twin to the 'CW' kit reviewed in last issue, and the 'GSV' has many of the same credits and demerits. As supplied in a poly bag within a decorative card enclosure (which doubles as a very well described and illustrated assembly instruction sheet), the kit comprises three mouldings containing all parts necessary for the van plus four brass bearings, two Northyard 10.5mm spoked wheelsets and a sheet of decals, which contains the relevant numbers for the codeboard and the underframe.

The decals, printed white on white backing paper (and a little hard to see), comprise the van code and a correct road number for the GSV together for the code board. There is no need to spend hours cutting and positioning numbers to obtain a specific correct road number. There are twelve sets of numbers on the sheet, sufficient to suit most rosters.

The standard of finish on the black moulded parts could be described as superb. On the main parts there is no flash at all although there is some flash on the bars. The detail includes rivets, door slides, internal 'A' bracing, timber grain, coupler release bar, corrugated iron roof with securing timbers (and screws) while the underframe is detailed with rivets, yard brake and release, air cylinder and acceptable axle journals and springs.

Following the detailed instructions the kit assembled readily with only a need for a little skill. It was found necessary to remove the flash from some of the bars (using a very sharp blade and running the

blade up the side of the bar to cut away the flash) and to relieve the locating lugs on the sides so that they married neatly onto the ends. Care is needed when adding the roof to the assembled body for the sides tend to bow in, but if held in place with tweezers and secured with a liquid solvent the problem is overcome. There is a choice of side buffers, the bottle style (that is suitable for the timber underframe version) and the modern freight version which is correct for this van, but the buffers are 20-30% oversized and if used on the van limit the use of Kadee couplers (No. 5) unless the coupler is mounted forward of the end sill.

The bonus parts from this kit is the old style buffers and the extra yard brake/release on the side sill, both of which, if properly removed can be used for future modelling projects.

With the review sample there was a major problem with the axle boxes. The bearing hole on one end was not in the same level plane with the other and the problem is magnified when the underframe is assembled. This discrepancy causes the wagon to rock from side to side, a problem that causes constant derailments with four wheel wagons.

To the credit of the manufacturer the problem is being corrected and kits produced after the first run should not have this problem.

For those who have been unlucky enough to have some of the bad underframes there are a few methods for easing the problem. The easiest way is to fit the underframe a little sloppy (so that the axle sets can move approx. 0.05mm side to side). This sloppiness appears to absorb the error.

Another method is to fill the low axle hole with epoxy (Panel Metal) and redrill the hole in the correct spot. A difficult task.

Assembled, the van is the correct size in overall dimensions. The coupler height is correct for Kadee No. 5. Regardless of the rock in the review sample the model rolls very freely. Total weight is 1/2oz (14 grams) which can be increased by adding metal sheep to the lower deck (Sentinel merinos. Ed).

There is little doubt that the GSV (and the BSV) are the most difficult vehicles on the NSWGR to make in model form, due mainly to the numerous bars in the sides. The method by which this aspect has been reproduced on this kit is superb. There is no doubt that the model represents the class of wagon that ran on the NSWGR until the mid 1970's.

Bob Gallagher.

CORRECTION

There was a slight error in the description of the Samhonga built C38 class review in last issue. A C38 has a 4-6-2 configuration not 4-8-2 as printed. The reviewer has been sent his pennance — 50 lines of ... A Pacific is a 4-6-2, a Pacific is a 4-6-2, a Pacific is a 4-6-2 ...

Further to the C38 review, we advise that the model was not painted with gold paint as suggested in the review, but was coated in clear lacquer after having been sand blasted. We apologise for the error and any inconvenience caused.

Editor.

AMRM NEWS

Continued from page 39

Good Reading

Modellers interested in small layouts (and those who think that the only good layouts are big) should read John Olson's series of articles on the Jerome and Southwestern Railroad. The first installment on building this 8' x 4' layout was in February 1982 issue of Model Railroader.

A Sn3 module built by Malcolm Furlow is featured in the February 1982 issue of Railroad Model Craftsman. In this article Malcolm, who will be presenting scenery clinics at the Prospect Model Railway exhibition in June, reveals some of his scenery methods. Some photographic evidence of Malcolm's work is in this issue.

For the growing band of 'O' scale modellers there is an article on building the Sunnyside Mill (in O scale) in the February 1982 issue of Model Railroader. Although a large structure, the mill is sited into a hillside and the article does cover the casting of the retainer walls.

Exhibition Highlight

Modellers not attending the Sunday display of the Melbourne Model Railway exhibition would have missed out on a very good display of 'Australian' model railway equipment.

The display was on the Australian Model Railway Association (Vic. Branch) layout and consisted of what was possibly the best display of modern Australian HO scale equipment ever assembled, and consisted of many kit-built and some scratch-built rolling stock representing N.S.W.R., V.R. and S.A.R./A.N. The glamour of the green and gold (of Australian National) contrasting with the black of N.S.W.R. and the V.R. red highlighted the standard that a few modellers have been able to achieve with basic materials and kits/models from B.G.B., A.R. kits, Rail North and Lima.

Hopefully this was just a beginning, and all keen modellers must look forward to seeing the work of these modellers displayed for the full duration of future exhibitions.

New Books

The second edition of DARTS is being released by

B. M. Coleman and R. E. Quaife. The Directory of Australasian Railway and Tramway Societies lists the various organisations in Australia and New Zealand.

The ML2 Story, dealing with the history of the VR 'B' class diesel electric loco, will be released by the Railway Traction Research Group.

Janus Publishing is released in Australia 'Narrow Gauge' which covers the '2' railways at the Cape in South Africa.

Along the Line in Tasmania — Book 1 (which follows the Traction Publication booklet format) of 56 pages of railway photographs.

The NSW Rail Transport Museum have re-published 'The Camden Tram' booklet, and includes updated text and photos.

The NSW Rail Transport Museum has also published Ron Preston's latest soft cover book 'The Great Northern Railway — Newcastle to Maitland 1857-1982'. It will be available in limited numbers.

The Emerald Tourist Railway Board have released their latest publication 'Down the Track with Puffing Billy'.

Brass locos for the minority?

Despite the fact that Australian narrow gauge modellers are a sectionalised minority there are manufacturers who can and are willing to provide the much required motive power in limited numbers. First, however, modellers will have to give some indication as to what potential (in numbers) there is for a brass ready to run model.

W. Hoskins in his letter in Mailbag this issue appeals for all narrow gauge modellers to write (to AMRM) in support for ready to run locos. We at AMRM not only support this appeal but also invite narrow gauge (and minority interest) modellers to participate in a survey that will be aimed at gauging the market for limited run locos. Results will be forwarded to the relevant parties and printed in AMRM.

To participate in the survey, which will close at the end of August 1982, modellers are required to write to AMRM and indicate what (classes) of locomotives they would be prepared to purchase. It will also be necessary to indicate the preferred scale of the model. In participating in the survey, readers must be prepared to pay the current price for a brass engine, at present (for HO scale) being approx \$400 (plus), and nearly double for garratts.

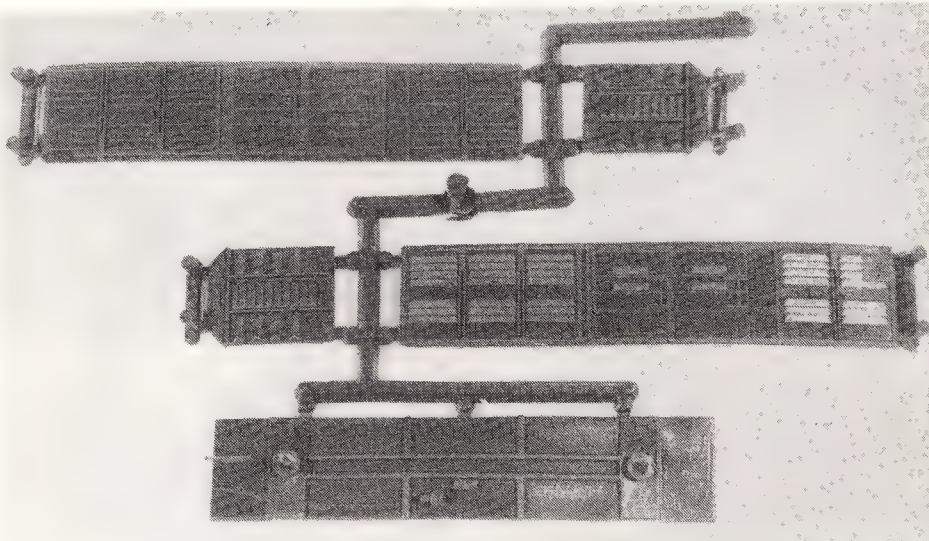
By the end of August we will be able to gauge if there is a genuine market for these minority interest modellers, so if you feel you are a forgotten modeller write in now and encourage your friends to do so as well. Bear in mind that the numbers required to make a run feasible is not large, in fact it is quite small, but the price of a hand built model can diminish as production numbers increase.

Tasmanian Railways

Readers interested in the Tasmanian Region of Australian National (Railways) can keep up to date with prototype happenings with the 'Tasmanian Rail News', an approximately bi-monthly news journal published by the Tasmanian Division of the Australian Railway Historical Society. Details are available from the Secretary, PO Box 162, Sandy Bay, Tasmania 7005.

Thank You

In recent weeks (Sydney) representatives of this magazine have had the pleasure of attending both the Melbourne Model Railway Exhibition and the New Zealand Model Railway Convention at Palmerston North. In both instances the warmth of the hospitality extended by the organising bodies and the numerous individuals was overwhelming, and a



Advance samples of the Fybren Models 'N' scale 'VLX' kit due for release in June 1982.

true indication of the friendship that can be obtained from within this great hobby.

Thank you.

Mailbag

In recent months letters from readers have arrived without any address. Although we do not print readers' addresses, letters will not be published unless they accompany the original letter.

COMMERCIAL NEWS

Arrivals

Broad Gauge Bodies have released their second billboard van kit, being the 'METTERS'. BGB now also include decals with the 'OB' wagon kit, the decals being for the tarpaulins, SAR logo marking and the code board. There are six numbers to choose from. Modellers who purchased the 'OB' wagon prior to the inclusion of decals can ask your dealer to get the decal sheet in on special order. The sheet will not be released separately on general sale.

Bergs Hobbies have received the C35 locomotive from Samhongs and the 40 class diesel loco kit from New Zealand.

Pilot models for the 48 class, C38 class and K class arrived from Samhongs in March, the pilot of the Rx arrived in April, as did the hand-made model of the N class from Don Jin. A busy period.

The Engine Shed have advised of a number of new arrivals in the truck range of Herpa models. As time permits some of these will be featured in the Review column.

Modellers working in Sn3½ scale are provided with a fine range of driving and rolling stock wheels by North Yard. Most of these items are available from or can be ordered by McBees Hobby Centre.

Expected Arrivals

Bridglands Hobbies advise that the pilot model of the SAR Rx is on hand. Imported by Brasskits, from A. Jin of Korea, the price of the model is expected to rise a little from that previously advised. A number of alterations are planned to the detail shown on the pilot model.

AR Kits advise that the BCH coal hopper kit is due for release in early May.

BGB have released a decal sheet for the VR GY wagon, which will provide the relevant lettering for the current style. Also from BGB can be expected

pre-painted and decalced tarpaulins for VR. In light and dark canvas shades they are also 4 and 5 row style.

Mansfield Hobbies advise that they expect to release a NSW 42 class dressup kit for the Lima 42 class soon. The kit will comprise a new No. 2 end, new driver's door, front pilot and correct profile bogie side frames.

Concord Hobbies are working on a gear set to improve the performance of the Lima Co-Co bogies. The kit will lower the speed of the bogie, with only a little modification. More details later.

General News

The distributors of Johnson ceramic tableware, The Chatterbox Coffee House, have advised that, if sufficient interest is shown, mugs with Australian locomotive prints will be produced.

It is pleasing to report that Greg Edwards, the talent behind the 'DATA SHEETS' scale plans, has completed his wanderings and is back in business. For the present, he plans to re-draw some plans to bring them up to the standard of the latest sheets. Welcome back Greg.

Further to notes in the last issue, Mini Models have advised that the planned 'BCW' cattle wagon will now be to the style introduced to service in 1959. While these wagons have a similar underframe to the BSV van, the overall height is lower.

Bergs Hobbies have advised that they plan to run, in limited numbers, a NSW two car set. To be of the 600/700 series, as used in the days of steam, they will be ready to run and sold as a set. Delivery is planned for late this year.

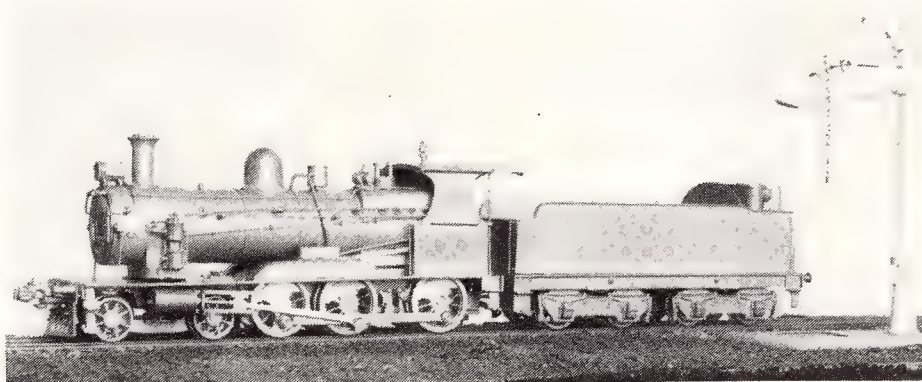
AR Kits plans to follow the BCH coal hopper with the similar style wheat hopper, the BWH late in 1982. They also have plans to produce a 'G' wagon kit (HG) and some flat wagon kits, all in styrene. Expected release for these items is in 1983.

Broad Gauge Bodies advise that they, reluctantly, will be increasing prices soon. This will be the first price rise since they started business. They also advised of some new projects. A new VR van is planned, based on the BP style of box car, and operated under a number of codes. For the SAR modeller a 'SLC' louver van kit is being prepared, while for the NSW modeller a kit of a goods shed is under way. Based on the Oberon shed this kit will be a welcome addition to the structure starved NSW modeller.

Decal wise, BGB are working on a set of decals for the Overland cars, which will allow modellers to detail the Lima cars.

Peco have advised of two important new items in the Streamline Universal Super Trackage System, a single slip turnout, and a complete new range of turnouts to be known as Standard, with a simplified specification to sell at a lower price. The Standard turnouts will feature galvanised steel rail, longer insulated frogs, be non-switch wired and thus especially suitable for use with any ring main electrical system such as Zero one.

Peco are also releasing a number of new buildings in the Manways Building Lineside series. More details later.



Pilot model of BRASSKITS SAR 'Rx' class locomotive.

MANSFIELD HOBBIES

ANNOUNCE A SHORT RUN OF NSWGR STANDARD 38 CLASS

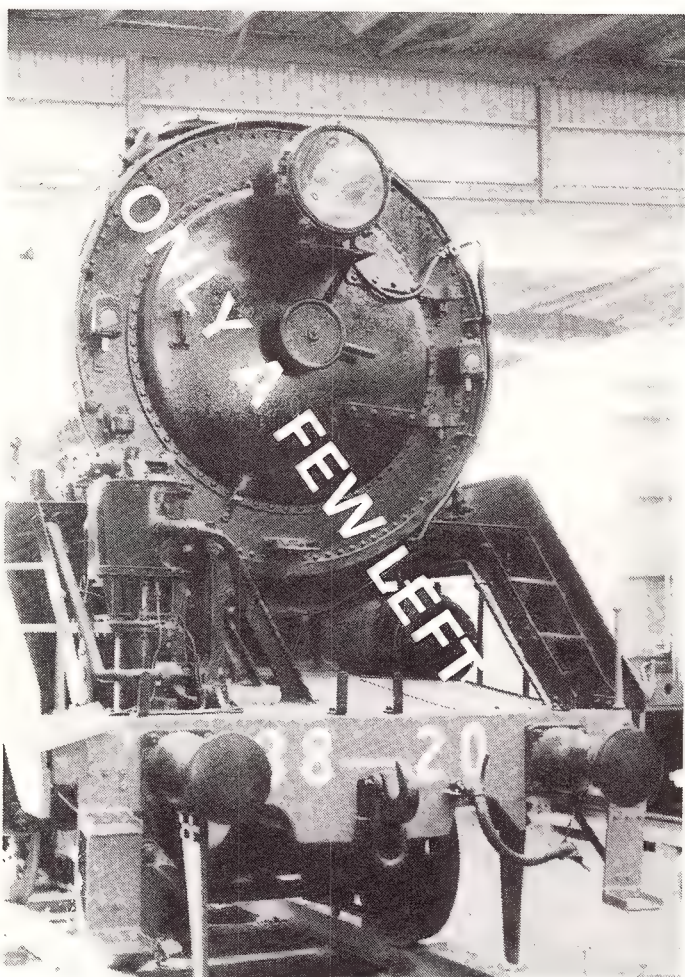


Photo by Bob Cooke

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3029 29.95	3104 29.30	4750 119.00
3030 65.30	3147 63.30	5201 155.00
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3035 54.25	3153 85.00	7804 80.00
3036 99.50	3156 73.00	7820 80.00
3037 65.00	3001 75.00	9501 111.50
3038 65.65	3010 offer	9502 111.50
3039 71.15	3011 81.00	10300 50.00
3040 83.00	3015 285.00	10301 59.30
3041 76.00	3019 offer	10490 59.30
3042 77.25	3023 129.50	10501 125.00
3043 76.00	3024 132.00	10502 166.70
3044 50.65	3045 offer	10504 166.70
3046 96.50	3055 offer	10522 199.00
3047 95.00	3063 450.00	10601 155.00
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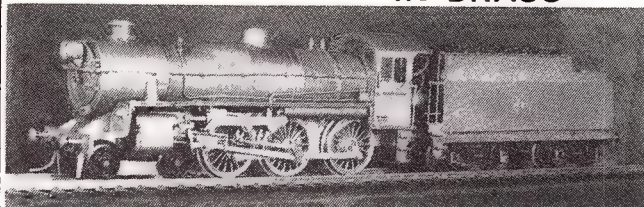


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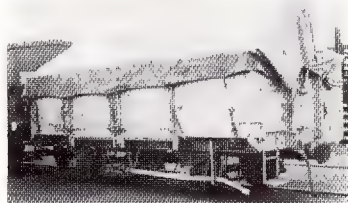
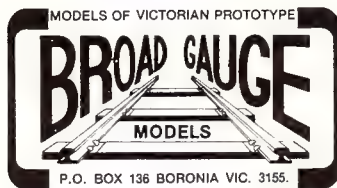
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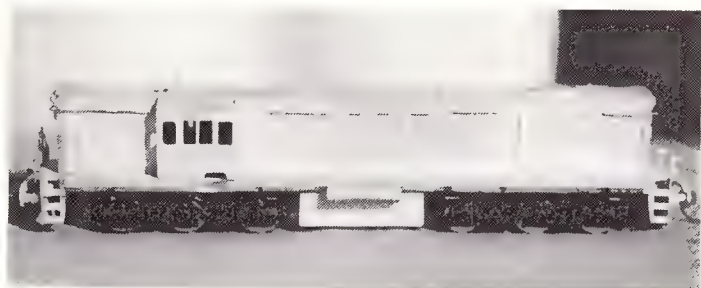
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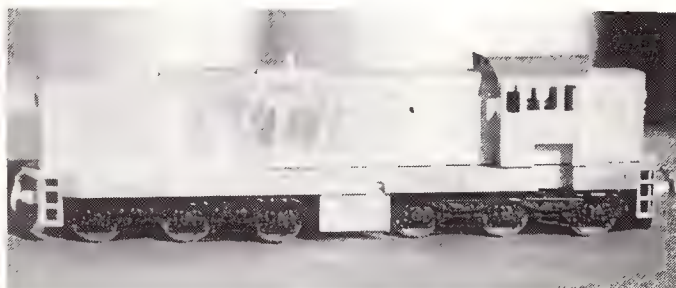
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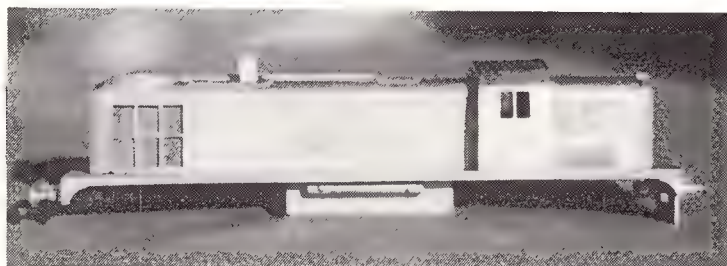
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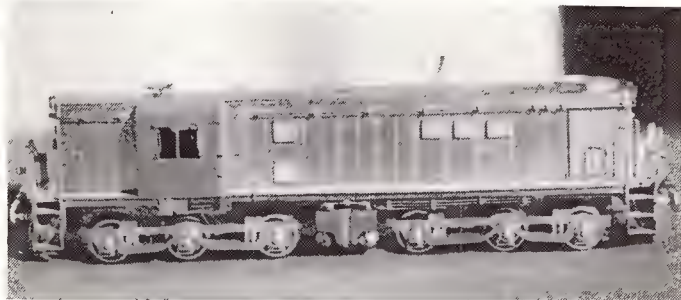


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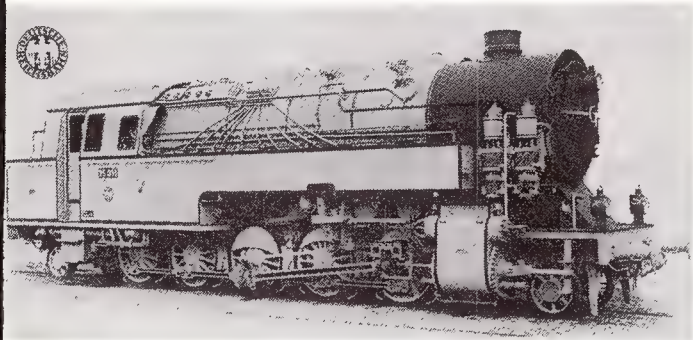
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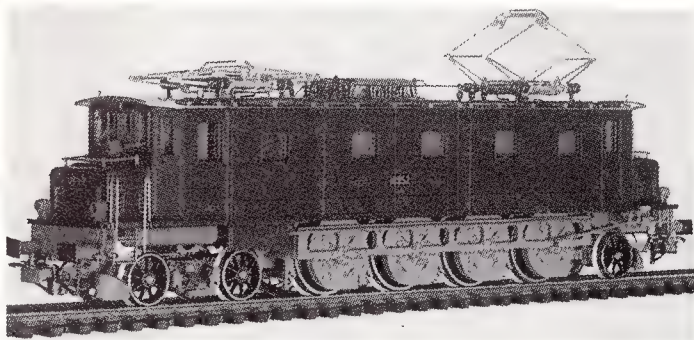
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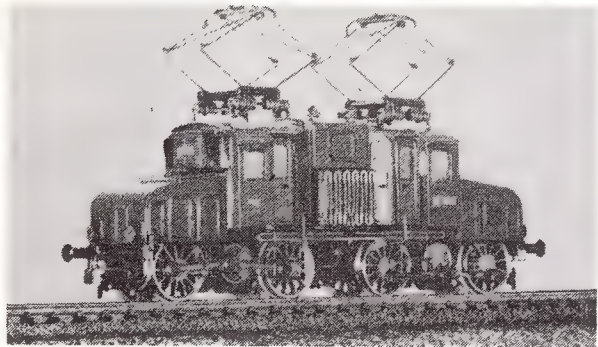


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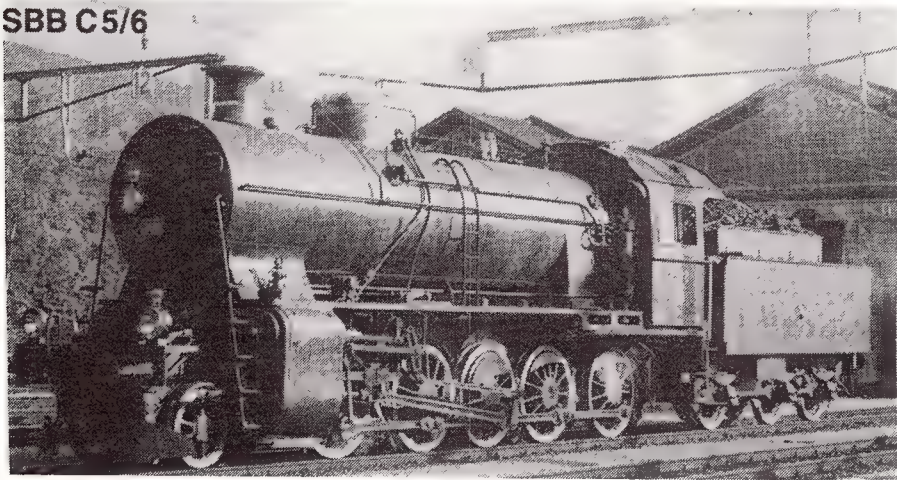


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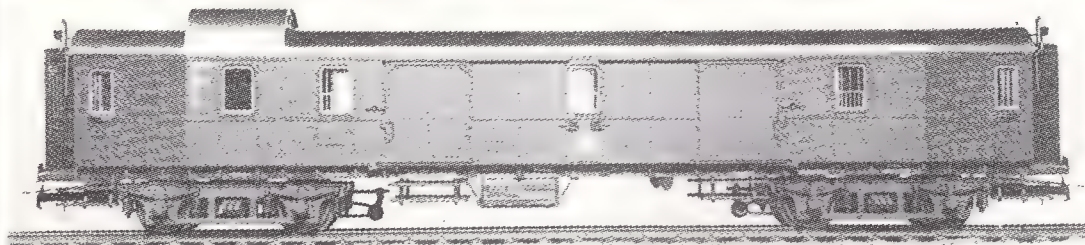


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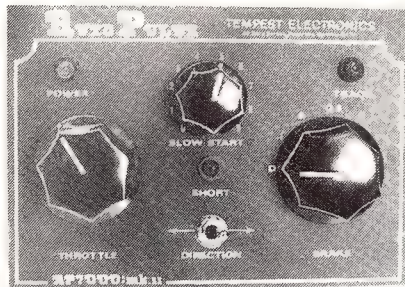
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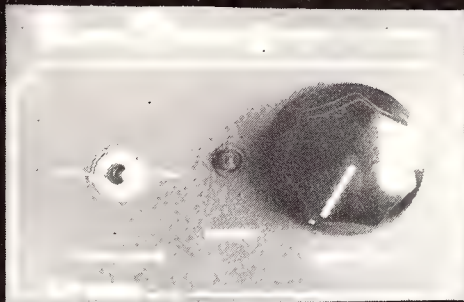
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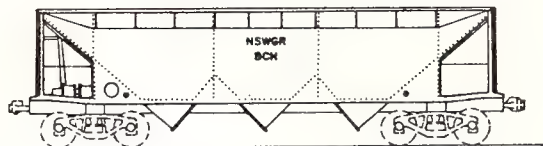
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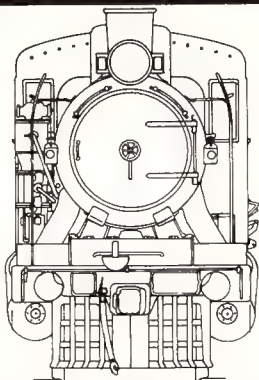
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54390-7 7 plank Carlton L.N.E.R.

54378-7 7 plank G.W.R.

54300-4 12 ton Vent. Van B.R.

54314-3 12 ton Vent. Van Persil

54369-3 20 ton Min. Wagon L.N.E.R.

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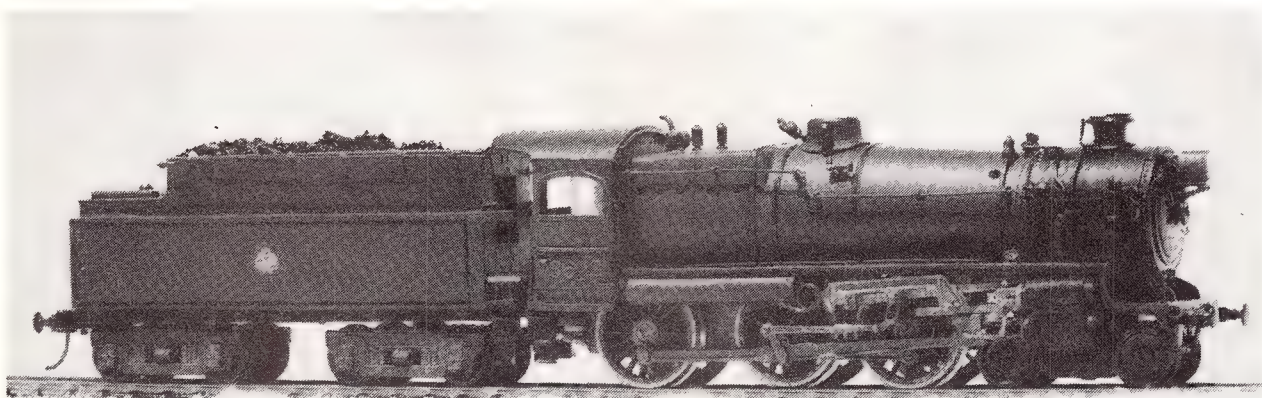
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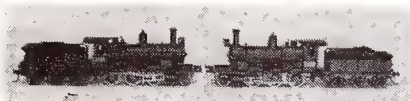
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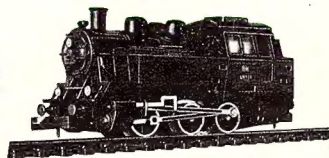
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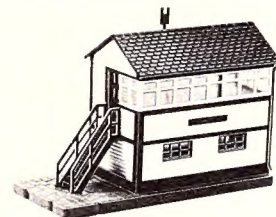
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